

SEPTEMBER 2006

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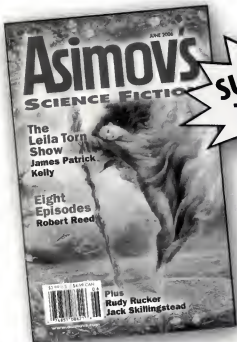
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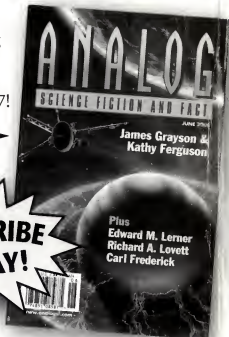
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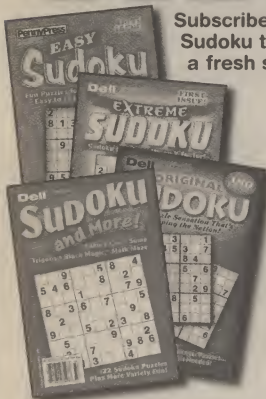
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## SCIENCE FICTION

SEPTEMBER 2006

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### NOVELETTES

- 22 SUNLIGHT OR ROCK ..... JOHN KESSEL  
62 GODBURNED ..... KAREN JORDAN ALLEN  
106 POSTSINGULAR ..... RUDY RUCKER

### SHORT STORIES

- 38 THE GIRL IN THE EMPTY APARTMENT .... JACK SKILLINGSTEAD  
50 PRIMATES ..... DAVID D. LEVINE  
83 WE ARE THE CAT ..... CARL FREDERICK  
97 SILENCE IN FLORENCE ..... IAN CREASEY

### POETRY

- 21 WIDOW OF THE ANDROID-ROBOT  
TIME WARS ..... VINCENT MISKELL  
60 THE TWO FRIENDS ..... TOM DISCH

### DEPARTMENTS

- 4 EDITORIAL: 2006 READERS' AWARDS ..... SHEILA WILLIAMS  
8 REFLECTIONS: THE KRAKEN ..... ROBERT SILVERBERG  
12 THOUGHT EXPERIMENTS: BARBARIAN  
CONFESSIONS ..... KRISTINE KATHRYN RUSCH  
37 SCIENCE FICTION SUDOKU ..... RUHAN ZHAO & LEE MARTIN  
132 ON BOOKS ..... PAUL DI FILIPPO  
142 THE SF CONVENTIONAL CALENDAR ..... ERWIN S. STRAUSS

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## 2006 READERS' AWARDS

There was little tension to be found in ballot counting for the 2006 *Asimov's* Readers' Awards.

Commanding leads for first place held true in the three fiction categories as well as the cover art contest. The awards were announced at a lovely breakfast reception at the Holiday Inn's Duck's Restaurant in Tempe, Arizona, on May 6. We were fortunate to have our best novelette winner, Daryl Gregory, on hand to pick up his certificate. Daryl's story, "Second Person, Present Tense," which was first published in our September 2005 issue, will be reprinted in a couple of best of the year anthologies. The story also received an honorable mention for the Fountain Award and is currently short listed for the Theodore Sturgeon Award. Our novella winner, Kristine Kathryn Rusch, had planned to attend the breakfast, but, unfortunately, illness kept her away. Kris's story "Diving Into the Wreck" received the distinguished UPC award as well.

Guests at our reception included Connie Willis, whose story "Inside Job" tied for second place in the novella category with Ian McDonald's "Little Goddess." Both of these tales are currently finalists for the 2006 Hugo awards. Joining Connie at the breakfast were her husband Courtney and her daughter Cordelia. Later that same day, Connie put on a wonderful performance as toastmaster of the 2006 Nebula Awards Banquet.

In addition to Connie, our guests included author Cynthia Felice and book reviewer and author Peter Heck. Of course, *Asimov's* associate editor, Brian Bieniowski, and I were there as well.

Traveling from England to Arizona was a bit too far for Stephen Baxter, the author of our award winning short story "The Children of Time." We also missed Michael Whelan, our cover artist award recipient, and Timons Esaias. Timons' poem, "Newton's Mass," won our poetry category in a photo finish. Indeed, there was a mere five points spread from the first-place poem to the poem that came in fourth.

The Anlab award was bestowed at the same event. *Analog* attendees included Stan and Joyce Schmidt, Joe and Gay Haldeman, Trevor Quachri, Richard A. Lovett, David Bartell, Eric James Stone, and George Krauter. The press was represented by Charles N. Brown and Liza Groen Trombi of *Locus*, Mark Kelly of *Locusonline*, and Scott Edelman of *SF Weekly*.

While our guests at the breakfast enjoyed the culmination of the voting process, they didn't get to see the hundreds of ballots that showed up in our offices. The average person does not expect to be exposed to the inner machinations of our system, but I feel lucky that I do get to look over and read through all the *Asimov's* Readers' Award ballots. As usual, these ballots were suffused with interesting

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## SCIENCE FICTION

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Editorial Director 1977-1982

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From left: Brian Bieniowski, Daryl Gregory, Sheila Williams

comments. Many readers mentioned how difficult it was to choose only three stories in each category from among their lists of favorites. Several readers noted that while they enjoyed the works of the masters, their cover art ballots would be cast for living artists who might benefit from the encouragement, and who would certainly be in a position to better appreciate the award. Some readers had been voting since the inauguration of the award. For others, this was their first chance to cast their ballots. All of the comments were appreciated. Joy Gatewood Fulton summed up the thoughts of many of her fellow subscribers when she wrote: "I have been an *Asimov's* subscriber since 1980, and cherish all the rich and varied stories, feelings, and ideas that the magazine has brought into my life. Thank you."

Perusing the ballots gives me a delightful opportunity to get to

know our readers. Attending the Nebula weekend gave me the delightful opportunity to meet Daryl Gregory, one of the authors of those rich ideas, for the first time. After breakfast on Saturday, Brian and I brought him along to lunch with Paul Melko, Jack Skillingstead, and Ted Kosmatka.

The awards weekend also gave me the chance to have dinner with long-time *Asimov's* author, Jack McDevitt, whose story "Fifth Day" will be appearing in an upcoming issue; spend time with my hotel roommate and *Asimov's* Nebula nominee, Nancy Kress (whose story, "Safeguard," will also be appearing soon); and chat with the Science Fiction Writers of America's brand-new grandmaster, Harlan Ellison. As always, the awards weekend gave me a terrific opportunity to rekindle old friendships and acquaintances and embark on new ones. ○



# **2006 READERS' AWARD WINNERS**

## **BEST NOVELLA**

1. **DIVING INTO THE WRECK;**  
**KRISTINE KATHRYN RUSCH**
2. Inside Job; Connie Willis (tie)
2. The Little Goddess; Ian McDonald (tie)
4. Shadow Twin;  
George R.R. Martin, Gardner Dozois, Daniel Abraham
5. Solidarity; Walter Jon Williams

## **BEST NOVELETTE**

1. **SECOND PERSON, PRESENT TENSE;**  
**DARYL GREGORY**
2. Bad Machine; Kage Baker
3. Softly Spoke the Gabbleduck; Neal Asher
4. The Edge of Nowhere; James Patrick Kelly (tie)
4. Dark Flowers, Inverse Moon; Jay Lake (tie)

## **BEST SHORT STORY**

1. **THE CHILDREN OF TIME;**  
**STEPHEN BAXTER**
2. The Fate of Mice; Susan Palwick
3. A Rocket for the Republic; Lou Antonelli
4. The Ice-Cream Man; James Van Pelt
5. Down Memory Lane; Mike Resnick

## **BEST POEM**

1. **NEWTON'S MASS;**  
**TIMONS ESAIAS**
2. Our Robot President; Bruce Boston
3. The Physicist's Warning; Sandra J. Lindow
4. Destination; Tim Pratt
5. How to Keep an Aging Werewolf Happy; Bruce Boston

## **BEST COVER**

1. **JANUARY;**  
**MICHAEL WHELAN**
2. February; Donato Giancola
3. December; Jean-Pierre Normand
4. October/November; John Allemand
5. August; Chesley Bonestell

## THE KRAKEN

In a column published here three or four years ago, I told of the powerful impact that that great monster of the seas, the giant squid, has had on my imagination since I first encountered it as a boy of seven or so in Jules Verne's novel *20,000 Leagues Under the Sea*. As everyone who has read the book or seen the movie knows, Captain Nemo's submarine, the *Nautilus*, is attacked by a whole pack of giant squids, immense creatures eight yards long, with huge writhing tentacles, horrid gnashing beaks, and great staring green eyes as large as saucers. The valiant crew of the *Nautilus* drives the swarming attackers off, finally, but the struggle is a frantic one, and Verne milks it for every milligram of excitement inherent in it. Every little boy loves a good monster story, and the battle with the giant squids made a deep impression on my very impressionable young mind.

I had another giant-squid experience a couple of years later in a scary radio drama—radio, back then, featured dramatized stories all day long—called “The Kraken,” in which a German submarine, cruising off the Norwegian coast in World War II, blunders into the habitat of an enormous squid and becomes entangled in its tentacles, each of them as thick as a hundred-year-old oak. The sub's captain—one of those scholarly Nazis so common in popular entertainment—immediately identifies the squid as the Kraken, long known as a menace to fishermen in northern waters. The great beast drags

the sub down to the cave that is its undersea lair, and when the captain sends a man in a diving suit out to investigate the situation, the monster swallows him alive, imposing on him a fate that he himself describes, step by step, in a particularly grisly way. Eventually the Kraken is harpooned—why German submarines were equipped with harpoons is something I can't tell you—but the roof of the cave collapses, crushing the sub, and only a few members of its crew manage to escape. I can never forget the nightmarish force of that broadcast.

Some years afterward, when I began to collect old science fiction magazines, I discovered that the story from which the radio play had been adapted had originally been published in one of them—the June 1940 issue of John Campbell's famous fantasy magazine, *Unknown*. It was the work of L. Ron Hubbard, the future creator of Dianetics and the founder of the Church of Scientology, under the pseudonym of “Frederick Engelhardt.”

My next encounter with the Kraken came in my teens, when as I prowled through poetry anthologies I discovered that Alfred, Lord Tennyson had written a sonorous poem about the undersea giant that stirred the same feelings of wonder in me that the radio broadcast and the Engelhardt story had engendered:

*Below the thunders of the upper deep,*

*Far, far beneath in the abyssal sea,*

*His ancient, dreamless, uninvaded sleep*

*The Kraken sleepeth: faintest sunlights flee*

*About his shadowy sides; above him swell*

*Huge sponges of millennial growth and height;*

*And far away into the sickly light,*

*From many a wondrous grot and secret cell*

*Unnumber'd and enormous polypi*

*Winnow with giant arms the slumbering green.*

*There hath he lain for ages and will lie*

*Battening upon huge sea-worms in his sleep,*

*Until the latter fire shall heat the deep;*

*Then, once by man and angels to be seen,*

*In roaring he shall rise and on the surface die.*

In the 1960s, when I turned my hand to writing books of popular science, I devoted a chapter of my book *The World of the Ocean Depths* (1968) to the Kraken of literature and its real-world counterpart, the giant squid, *Architeuthis*. The first published reference to the Kraken, I noted, was in Archbishop Olaus Magnus' 1555 *History of the Northern People*, in which he told of "monstrous fish on the coasts or sea of Norway. . . . One of these sea-monsters will drown easily many great ships provided with many strong mariners." The archbishop reported that the Kraken was so huge that sailors had been known to mistake it for an island, landing on its back and going to their dooms when the annoyed Kraken sank beneath the waves.

# Asimov's

## SCIENCE FICTION

### SALUTES THE WINNERS OF THE 2005 NEBULA AWARDS

#### BEST NOVEL

#### **CAMOUFLAGE**

Joe Haldeman

(*Analog*, March–May 2004)

#### BEST NOVELLA

#### **"MAGIC FOR BEGINNERS"**

Kelly Link

#### BEST NOVELETTE

#### **"The Faery Handbag"**

Kelly Link

#### BEST SHORT STORY

#### **"I Live with You"**

Carol Emshwiller

#### BEST SCRIPT

#### **Serenity**

#### AUTHOR EMERITUS

**William F. Nolan**

#### GRAND MASTER

**Harlan Ellison**

Another Norwegian clergyman, Erik Pontoppidan, Bishop of Bergen, provided a further account of the Kraken in his *Natural History of Norway*, 1751. Calling it "incontestably the largest sea-monster in the world," and estimating its size—conservatively, he said—at "about an English mile and a half in circumference," Pontoppidan asserted that fishermen often catch sight of the Kraken close to the surface on a summer day. "It looks at first like a number of small islands," he wrote. Sometimes "several bright points or horns appear, which grow thicker and thicker the higher they rise above the surface of the water, and sometimes they stand up as high and large as the masts of middle-sized vessels. It seems these are the creature's arms, and, it is said, if they were to lay hold of the largest man-of-war, they would pull it down to the bottom."

By the late nineteenth century, when Jules Verne was writing *20,000 Leagues Under the Sea*, scientists felt reasonably certain that sea-creatures the supposed size of the Kraken did not actually exist. But it seemed clear that the giant squid, *Architeuthis*, was a genuine prototype for the Kraken legends. The first authenticated description of one, and the direct inspiration for that horrific scene in the Verne novel, was the work of Lieutenant Frederic-Marie Bouyer, commander of the French sloop *Alecton*. Sailing off the Canary Islands in 1861, the men of the *Alecton* caught sight of what Bouyer took to be a giant octopus. It made no attempt at an attack—that part was Verne's own invention—but remained at the surface close by the ship, "moving about with a kind of intelligence." Bouyer recognized it as an unknown species and after rejecting the idea of sending out a boat to

capture it for scientific study, fearing that "in such a hand-to-hand struggle the monster might capsize the boat with its long tentacles, and perhaps use these formidable whip-like weapons, armed with suckers, to strangle several of my sailors," he tried to snare it from shipboard with a noose. But the animal escaped, leaving behind a forty-four-pound chunk of tentacle. This is Bouyer's description: "The body seemed to measure fifteen to eighteen feet in length. The head had a parrot-like beak surrounded by eight arms between five and six feet long. In aspect it was quite appalling, brick red in color, shapeless and slimy, its form repulsive and terrible."

In the following decade, several similar monsters were washed ashore on the coast of Newfoundland. From them it could be determined that what Bouyer had seen was a giant squid, not an octopus, for they had ten tentacles, not eight: two very long ones and the eight that Bouyer had seen. (He had mistaken one of the long tentacles for a tail.) Fishermen in a boat off Newfoundland were attacked by one, and fought it off, severing two of its tentacles with a hatchet. One of these limbs was nineteen feet long and 3.5 inches thick. Another giant squid found in New Zealand had tentacles forty-nine feet long. Fragments of tentacles as thick as a man's body were found in the stomachs of sperm whales, the chief enemy of the giant squid. From the study of these and other specimens, it was estimated that the biggest of these squids, which roved the seas in many parts of the world, could reach an overall length of some sixty feet.

But almost all the information we had about giant squids came from dead or dying specimens. No

one had managed to make detailed observations of the living giant squid in the wild until a Japanese research team succeeded in photographing one in the North Pacific in September, 2004, at a depth of nearly three thousand feet.

The Japanese attached cameras to a long line, baited it with chopped-up shrimp and a small squid of a common species, and lowered it into the waters off Japan's Osagawara Islands, where giant squids were thought to seek their prey in a region of the sea that sunlight never penetrates. Sure enough, one of the monsters came swimming up, enveloped the baited line in a ball of tentacles, and—as the researchers had hoped—snared itself on hooks that were mounted on the rig below the camera. For the next four hours the squid struggled to free itself while the cameras snapped some 550 images.

Then it succeeded at last in getting itself loose, but left a nineteen-foot section of tentacle behind that the researchers were able to hoist up on deck. "It was still functioning when we got it on the boat," one of the Japanese scientists said. Repeatedly it gripped the boat deck, and tried to catch the fingers of a scientist who prodded it: "The grip wasn't as strong as I expected; it felt sticky." But the photographs of

the hooked, thrashing squid, which was a relatively small one, only some twenty-six feet long, showed it to be a strong, energetic animal—perhaps not as fierce as the ones depicted in *20,000 Leagues Under the Sea*, but a vigorous, aggressive creature nonetheless and a dangerous predator.

And very strange-looking, too: the photos show us an eerie thing indeed, whose gigantic tentacles sweep the water in an oddly graceful way. Nor is it the weirdest deep-sea giant that marine scientists are likely to be spying on in the next decade or so. Perhaps the Lake Champlain plesiosaur and the much ballyhooed Loch Ness Monster are going to remain forever in the realm of mythology, but surely other astonishing discoveries await us. What these first photos of the giant squid tell us is that we are only at the threshold of exploration of the undersea world, and that the sea holds creatures every bit as bizarre as the denizens of other planets that science fiction writers have dreamed up over the years. I doubt that we will find any Krakens down there, but there can be little doubt that our probing cameras, dangling into those unknown lightless depths, will startle us again and again in the years ahead. ○

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## BARBARIAN CONFESSIONS

*Author's Note: I wrote this essay at the request of Glenn Yeffeth at BenBella Books. He asked SF writers to debate the merits of Star Wars, taking a position for the defense or for the prosecution. In addition to the essays, the book has a "cross-examination" for each side, and rebuttal answers from each essayist. BenBella published the book in June, 2006. This essay differs slightly in form from the one that I wrote for the book: a few lines have been added for the sake of clarity. I also want to note that I'm discussing sf book publishing here. Magazine editors have the luxury of putting all types of sf into a single issue, without disappointing any of their readers.*

—Kristine Kathryn Rusch

Since this book is titled *Star Wars on Trial*, and I am testifying for the defense, let me proceed as if I were sitting in the witness chair. No, you don't have to swear me in. I'll raise my right hand if someone wishes, but let me simply say that when it comes to the future of science fiction—one of my passions—I feel as if I'm always under oath.

First, my credentials. I am a Hugo-award winning science fiction writer who has, joyfully and without remorse, written nearly thirty tie-in novels. Since someone writing for the prosecution will probably mention the words "art" and "literature," let me add that for more than a decade, I edited two of the most literary publications in the sf field—

*Pulphouse: The Hardback Magazine* and *The Magazine of Fantasy and Science Fiction*. My authors and I were nominated for dozens of awards. We even won a few.

I have received awards in a number of genres, not just sf. Of my mystery series, written under the name Kris Nelscott, *Salon.com* said, "Somebody needs to say that Kris Nelscott is engaged in an ongoing fictional study of a thorny era in American political and racial history. If that's not enough to get 'serious' critics and readers to pay attention to her, it's their loss."

"Serious" critics and readers have paid attention: I have received several literary awards—given by people who only think of writing as "literature" and "art"—and I have become a darling of book clubs. Meanwhile, I glam around in my secret identity as a romance writer (Kristine Grayson, for those of you who don't know), and I skulk through life as the sf/fantasy/horror writer Kristine Kathryn Rusch.

All three of us (as well as several of my other pen names which shall go unnamed) read everything we can get our hands on. From classics to mystery novels, from literary short stories to the latest Nora Roberts, from science fiction novels to tie-ins, I read. And read. And read.

My catholic reading tastes (small "c") and my catholic writing tastes match my entertainment tastes. I record fifteen hours of television per week (although I only have time to watch six hours per week; I catch up during those endless months of re-

runs). I watch two to three movies per week, sometimes more during peak seasons like Christmas and summer. Last week alone, I saw *Harry Potter and the Goblet of Fire* and *Good Night, and Good Luck*—one at an art house and the other at the cineplex down the street.

I am one of the heretics who believes that art must be enjoyed first and analyzed later.

I am also a member of the *Star Wars* generation. Sixteen years old when the movie came out, at a first-night screening with a dozen of my high school buddies, I watched the world change right in front of me. Did I know that E.E. "Doc" Smith had done something similar thirty years before? Of course not. My small town library never had that kind of trash (their words, not mine). Had I memorized the science fiction canon? Hell, I didn't even know there was such a thing as science fiction. Or fantasy. Or genre, for that matter.

And I didn't care.

All I wanted that night was a bit of entertainment. What I got was an addiction that has lasted through my adulthood.

I often say that I came to science fiction because, at thirteen, I fell in love with a classic *Star Trek* episode called "City on the Edge of Forever," written by someone named Harlan Ellison. My best friend, Mindy Wallgren (one year older, two decades smarter) told me that Ellison wrote short stories, and if I liked the episode, I'd love the short fiction. She gave me a Hugo-award collection edited by Isaac Asimov, and I read every story in it. Then books by every author. And then more books, and more books, and more books.

But you must remember: I had no idea what genre was so I didn't know

where else to find wonderful stories like the ones I had just read.

Now fast-forward three years. I'm sitting in that theater and absorbing *Star Wars* like there's no tomorrow. And I buy not my first but probably my fifteenth tie-in novel (yes, we have to count those *Partridge Family* books [yes, there were *Partridge Family* books]). Next to that *Star Wars* novelization (which I should have kept, dammit!, considering how much the thing's worth now), I found a bunch more of those books like the ones I read in my *Star Trek*/Harlan Ellison phase. So I buy those too.

One of them is *Dune*, which had a very *Star Wars*-y cover. I fall in love all over again.

When Glenn Yeffeth asked me to contribute an essay to this volume, he sent me a list of topics, asking me to choose one and take the defense or prosecution position. There was no contest; I had to take defense. I love *Star Wars*, especially Episodes 4, 5, and 6. Especially Episode 5, known to you non-*Star Wars* buffs as *The Empire Strikes Back*, screenplay written, by the way, by a classic science fiction writer, a woman named Leigh Brackett.

My problem came in limiting myself to one question, because questions three, four, six, and seven intersect. Let me list them here.

3. *Star Wars* and the battle for SF readers and shelf space—the shelf space and mindshare that *Star Wars* books take up; is this a positive or negative thing.

4. The impact of *Star Wars* on SFF writing today—to what extent is current sf writing influenced by *Star Wars* and how?

6. The impact of SW on the public's perception of SF/F—to what ex-



tent does SW define how the general public sees SF, and is this a good thing?

7. *Star Wars* as a fantasy—not really a pro or con issue, but many have argued that SW is really a fantasy and should be held to the standards of fantasy.

I told Glenn that I would write about question four. But four and three and six are inseparable in my mind. Seven has to be addressed here as well because of the underlying assumption behind it, an assumption I'll address shortly.

First, the promised answer: *to what extent is current sf writing influenced by Star Wars?* The answer is simple: Not enough.

In order to make my case for that answer, however, I must address #3: *Star Wars and the battle for SF readers and shelf space.* There is no battle for shelf space because of #6: *to what extent does SW define how the general public sees SF* or, as I like to call it, the definition of SF.

If you'll notice in the questions above, Glenn has gone back and forth between SF, SFF, and SF/F. Those abbreviations, used in the sf field only, mean the same thing in his questions. Science fiction—as a marketing category—is called SF. Science Fiction the Marketing Category includes fantasy novels. Later reviewers and critics sometimes called the category SF/F to acknowledge the two different genres labeled as one. Because of that confusion, the Science Fiction Writers of America wanted to acknowledge their fantasy base, so they started calling themselves SFFWA, which led to SF being labeled, in the sf field, SFF.

Why is all this important to my essay? Because, in the dark days before literary tropes hit sf (which in

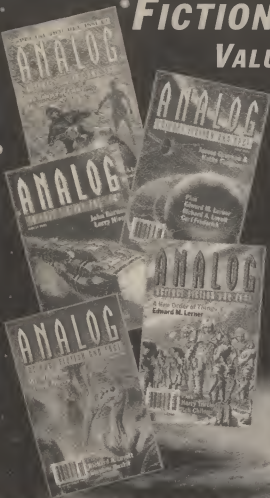
my essay, lowercased, stands for science fiction only), the sf and fantasy genre had the same goals. Large-scope stories, in which worlds or universes were at stake, created new but oddly familiar settings that were far enough removed from real life so that readers could escape their mundane existences. The lead character was not the protagonist; he (and it was usually a he) was the hero. He often followed the hero's journey (see Joseph Campbell, whom Lucas says he gleefully plundered). No matter how dark the journey, the reader will follow the hero because, the reader knows (and is reassured on a deep level) that the hero will triumph at the end.

When literary tropes hit sf in the 1960s, solid characterization, good sentence-by-sentence writing, and dystopian endings became commonplace. "Realism," both in character actions and in scientific approach, became more important than good storytelling.

Fantasy continued its heroic ways, promising—and usually delivering—those uplifting endings, those fascinating worlds, and those excellent (heroic) characters. But science fiction started resembling the literary mainstream. The novels became angst-filled. The protagonists, demoted from their heroic pedestals, lost more than they won. The worlds became as ugly or uglier than our own.

Suddenly, sf became unreliable. Readers had no idea if they would find uplifting stories or dystopian universes. They didn't know whether, once they plunged through six hundred pages of nasty, ugly world-building, they would ever emerge into any sort of light. Sometimes, the sf devolved into one long scientific exposition. Or into jargon-filled, hard-to-follow stories that realistically explored

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situations set up in the bad old days of pre-literary science fiction.

Science fiction editors and critics declared that something that had been done before—such as time travel to Hitler's Germany or space opera like E.E. "Doc" Smith's *Lensman* series—was unacceptable for the new generation of readers. The assumption was *and still is* that if someone in science fiction literature—anywhere or at any time in science fiction literature—had written a known work on a topic, that topic was off-limits to future generations of sf writers.

That assumption arose when publishing was small, when sf was a community of readers who numbered in the hundreds. Walter Jon Williams calls this community "the science fiction village." In a marvelous essay published in *Asimov's*, he writes:

Along with the fiction, the [sf] culture grew more sophisticated along the way, but it retained a proudly self-made quality, standards that it considered unique to itself, and a specialized vocabulary to describe both the texts, the contents of the texts, and the special view of life that was considered particularly scientific. Fandom may not necessarily be a way of life, but it's definitely a point of view.<sup>1</sup>

A problem arose for sf fandom, which controlled sf publishing, when people like me entered the mix. We received our introduction to sf through the media. Williams explains the dilemma:

... electronic media brings science fiction to its audience free of Science Fiction Culture, the history and view of science fiction laboriously hammered out over the last sixty or seventy years. ... Science Fiction Culture places

the work in its context, relates it to other work, to traditional themes in science fiction, to contributions of individual editors and magazines. All of this is necessarily absent from visual SF, which—also necessarily—looks at SF as a grab-bag full of ideas useful to put Scott Bakula in jeopardy again this week.<sup>2</sup>

But the only way the Science Fiction Village can protect itself against Media Barbarians pounding at the gates is to keep the village small. Such a task was easy in the early years of sf fandom. It's not so easy now.

The world has changed since the Science Fiction Village was created. After World War II, countless people went to college on the GI Bill. Those people became readers who bought books and read to their children at night. Readership grew across the board. So did the book-buying public. Book sales expand every year from 1 to 5 percent, a phenomenal and consistent rate of growth not seen in most other industries.<sup>3</sup>

Fiction markets have expanded. In 2004 alone, 2,550 books "of interest to the SF field" were published as originals or reprints. This total number of books does not include gaming novels, movie novelizations, or original novels written in a media universe (like the *Star Wars* novels).<sup>4</sup> The days of being able to read everything published in sf in one given year are long gone.

So the new reader coming in, the one with a voracious appetite for SF, has a wide range of choices. The problem is that most of those choices respond to or build on ideas found in novels so long out of print that libraries and specialty used bookstores no longer carry them. Many of the sf editors still working today live

in the Science Fiction Village. They are buying novels that appeal to a few thousand people, forgetting about (or ignoring) the barbarians at the gates.

It is impossible—physically impossible—to catch up on the language of Science Fiction Culture. I have immersed myself in it for thirty years now, ever since I discovered it, and I'm still reading the classics. What I didn't understand in the early sf novels and short stories that I read, I researched. I forced myself to pass as a Science Fiction Villager, and lo-and-behold, they actually took me in.

But I'm a barbarian. Of the 1,417 original books published in sf last year<sup>6</sup>, I read ten of them. Six of those books were short story collections. Two of them I wrote. The other two were novels by people whose sf I'd read before and liked. Of the remaining 1,407 books, I probably handled 750 of them and replaced them on the shelf. Honestly, most of the 750 novels I put back looked like work.

I read fiction for entertainment, relaxation, and enjoyment. If I want to work, I read the history, literary essays, biography, science, and legal books that grace my shelves.

Last week, for the first time in more than a decade, I saw an sf novel on the bookstore shelves that made my barbarian self reach for the book with joy. The cover had a picture of a derelict space ship. The back cover blurb talked about far fu-

tures and finding artifacts in outer space. The cover quote said, "In the old tradition of *Astounding*."

Because I had been burned before, I read the opening few pages, and a section out of the middle. And then I bought the book. I haven't read it yet, so I won't say the title here.<sup>6</sup> But I will say that I haven't been this eager to read an sf novel in almost twenty years.

Why am I eager to read it? Because the novel promises the very things that *Star Wars* gives: An escape, a journey into a new yet familiar world, entertainment. A good read.

The things you still find in fantasy fiction. (There, as promised, #7: slain like the dragon it is.) The things that sf jettisoned in the erroneous cold equations practiced by the New Wave.

The things that bring barbarians into the Science Fiction Village.

Why do I want barbarians in the Science Fiction Village? Forget that they're my kith and kin. Think for a moment about the shelf space argument (good old #3). Large genres do not care about how much shelf space goes to tie-in novels. The mystery genre has a plethora of tie-ins, from *Murder She Wrote* to *CSI*. The romance genre has fewer, but almost every single romance movie that comes out has a novelization attached to it.

In those genres, no one talks about the tie-ins "stealing" shelf space, even though, logically, there should be less

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shelf space because of the very size of those genres. In 2004, romance novels accounted for 39.3 percent of all adult fiction sold. Mystery and thrillers came in second with 29.6 percent. General fiction, which is what most of us would call the "literary mainstream," was 12.9 percent of all adult fiction sold, followed by "other fiction," a category that includes such things as Western and Men's Adventure, at 11.8 percent.

SF came in dead last at 6.4 percent.<sup>7</sup>

SF—y'know, the genre that includes fantasy. I have no idea how low the sales would be if we were only talking about science fiction all by its little ole self.

SF is committing the common sin of a dying literary genre. It blames its problems on the outsiders—the tie-in novels, and by extension, the barbarians at the gate—who are crowding the shelves and taking away space for "good" sf.

"Good" sf can retire to the specialty press where the Science Fiction Village can read and discuss it. It's time to return to the gosh-wow, sense-of-wonder stories that sf abandoned when it added literary values to its mix, the kind of stories that *Star Wars*, and by extension, *Star Trek*, *Stargate*, and all those other media properties have had all along.<sup>8</sup>

SF's insularity is murdering the genre. Remember that publishing is a business. As a business, it is driven by sales figures, by profit and loss statements. For too long, sf has been in the loss side of the publishing column. As a result, fewer and fewer sf books are being published.

The figures I quoted above for 2004 are down from 2003. In that year, SF counted for 7 percent of all adult fiction books sold. In 2001, SF counted for 8 percent. The literary

trend spirals downward while the media trend goes up. Half the new television dramas introduced in 2005 were science fiction, fantasy, or had a fantastic element. Most of the movies in the top twenty for the past five years have been SF. Nearly all of the games published have been SF.

If we bring even one-tenth of the people who play the games, watch the movies, or read the tie-in novels into the literary side of SF, we'll revive the genre. In a few years, we could overtake mystery or even, God forbid, romance.

Let's put it another way. When *Star Wars* fans go to the bookstore like I did thirty years ago, they buy the latest novelization. Then they patrol the aisles for something similar—and find nothing. The books that would interest them are hidden between the jargon-filled limited-access novels that fill the shelves, behind the dystopian novels that present a world uglier than our own, the protagonists who really don't care about their fellow man/alien/whatever. A few attempts at reading that kind of book, and the SW reader returns to the tie-in shelf where the heroes are indeed heroic, the worlds are interesting, and the endings are upbeat.

Recently, *Publisher's Weekly* interviewed six sf specialty shops across the country, and asked their proprietors which books they consider must-haves. Not a single science fiction book on the lists has been published in the last five years. Fantasy novels include books published recently, but not sf.<sup>9</sup>

Science fiction, small case, is not producing novels that a large group of people want to read. And that spells the death knell for the literary genre at a time when, ironically, interest in SF is expanding.

Fantasy will take care of itself. It has kept the tropes that bring in readers. It is a growing genre. The statistics I list above do not include young adult novels, which means that the Harry Potter phenomenon is missing from the 6.4 percent. But the gaming novels, movie novelizations, or original novels written in a media universe (like the *Star Wars* novels) are included in that number. Which means that the actual percentage of sf books in relation to other adult fiction titles sold is even lower than 6.4 percent. Significantly lower.

The literary genre, on whom we modeled this debacle, saw the error of its ways about five years ago. Now, you'll notice, literary fiction has become general fiction (see above) and publishes things sf sneers at—alternate histories set in World War II (Philip Roth, *The Plot Against America*); time travel novels (Jasper Fforde); and scientific adventure fiction (anything by Michael Crichton). The literary genre has also reclaimed plot. Or, as Pulitzer Prize winner Michael Chabon (author of the first-draft screenplay for *Spider-Man II*), calls it: Entertainment.

In his opening to *The Best American Short Stories*, Chabon writes:

Entertainment has a bad name. Serious people, some of whom write short stories, learn to mistrust and even revile it. The word wears spandex, pasties, a leisure-suit studded with blinking lights. It gives off a whiff of Coppertone and dripping Creamsicle, the fake-butter miasma of a moviehouse lobby. . . . Intelligent people must keep a certain distance from its productions. They must handle things that entertain them with gloves of irony and postmodern tongs. Entertainment, in short, means junk,

and too much junk is bad for you. . . .<sup>10</sup>

Chabon goes on to say that those serious and intelligent people are wrong. Because they have strangled entertainment in the literary field, the field has narrowed unpleasantly. He continues:

The brain is an organ of entertainment, sensitive at any depth and over a wide spectrum. But we have learned to mistrust and despise our human aptitude for being entertained, and in that sense we get the entertainment we deserve.<sup>11</sup>

Chabon's argument applies to the sf genre. We have gotten the entertainment we deserve, and it is slowly strangling the publishing arm of our great genre.

Is current SF writing influenced by *Star Wars*? No, not nearly enough. We need more grand adventure, more heroes on journeys, more uplifting (if not downright happy) endings. Yes, we can keep the good sentence-by-sentence writing, the good characters, and the lovely descriptions the New Wave steered us to. We can even keep the dystopian fiction and the realistic, if difficult-to-read, sf novels, so long as we do them in moderation. They cannot—and should not—be the dominant subgenre on the shelves.

Are tie-in novels taking shelf space away from SF? Hell, no. The tie-ins, from *SW* to *Trek* and beyond, are keeping SF alive. If we, the sf writers and publishers, want more shelf space, we have to earn it. We earn it by telling stories, some of them old faithfuls that the fans like to read, the things that have been published before. We earn it by entertaining. We earn it by creating characters as memorable as Luke and Han and Darth Vader.



We don't earn it by whining that a movie has encroached on our genre.

Barbarians are taking over our little village!

Well, let me remind you of the things I said in the beginning of this essay. I am a barbarian in villager's clothing. I snuck into the SF Village long ago, but I sneak back out every night for a little forbidden entertainment.

Open the gates, people. We barbarians aren't here to trash your genre. We love it too. We love it for different reasons. But the village can become a city.

In fact, it needs to become a city in order to survive.

So let us in. We can save the SF genre. ○

*As announced earlier in the issue, Kristine Kathryn Rusch's December 2005 novella, "Diving into the Wreck," was the winner of our twentieth annual Readers' Award Poll. That story also won Spain's UPC award. In addition to her many SF, mystery, and romance novels and short stories, the author also writes a regular nonfiction column for Aeon Speculative Fiction Magazine.*

<sup>1</sup> Williams, Walter Jon, "Thought Experiments: Science Fiction Village," *Asimov's Science Fiction Magazine*, July 2005, p. 22.

<sup>2</sup> Williams, Walter Jon, "Thought Experiments: Science Fiction Village," *Asimov's Science Fiction Magazine*, July 2005, p. 25.

<sup>3</sup> *Publisher's Weekly* year-end statistics taken from their website: [www.publishersweekly.com](http://www.publishersweekly.com).

<sup>4</sup> Dozois, Gardner, *The Year's Best Science Fiction: Twenty-second Annual Collection*, St. Martins Press, July 2005, p. xxvi. Dozois got his numbers from *Locus Magazine*.

<sup>5</sup> Dozois, Gardner, *The Year's Best Science Fiction: Twenty-second Annual Collection*, St. Martins Press, July 2005, p. xxvi.

<sup>6</sup> Okay. It's Jack McDevitt's new paperback *Polaris*.

<sup>7</sup> Statistics compiled every year by the Romance Writers of America <[www.rwanational.org](http://www.rwanational.org)>. These statistics come from two studies commissioned by the organization. One study "is tabulated by mathematician Olivia Hall, who draws data from mass-market book distributors' yearly release information; from figures released by the American Bookseller Association; and from reports by Ipsos-BookTrends reports, an independent market research firm that studies book trends. This study is updated yearly. Another study focuses on reader demographics, book content, and book-buying habits. It is conducted via telephone survey and in-person focus groups by Corona Research, a market research firm in Denver, CO." Other studies, conducted by various organizations, have similar figures. Anyone who doubts these numbers can do their own tally using books in print numbers: total fiction books published into the number I used above. I prefer the RWA statistics; they're less dismal for SF publishing.

<sup>8</sup> In fact, I believe the *Star Trek* juggernaut faltered when it lost track of the same values that sf literature forgot: the excellent storytelling, the hero's journey, the strange new worlds (familiar and yet unfamiliar) promised in the voice-over for the first and second series.

<sup>9</sup> Sidebar to "A Hobbit Takeover?," *Publisher's Weekly*, April 4, 2005. Retrieved from website archives.

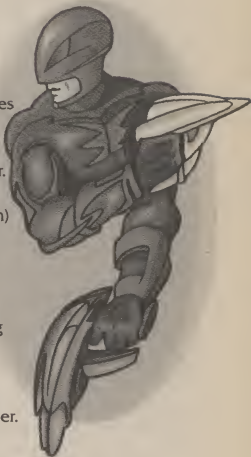
<sup>10</sup> Chabon, Michael, "Introduction," *The Best American Short Stories 2005*, edited by Michael Chabon, Houghton Mifflin Company, 2005. P. xiii.

<sup>11</sup> Chabon, Michael, "Introduction," *The Best American Short Stories 2005*, edited by Michael Chabon, Houghton Mifflin Company, 2005. P. xiii.



# WIDOW OF THE ANDROID-ROBOT TIME WARS

Her deceased android husband appears to her every twilight, a much younger machine than her memory chips allow. Still, he is the same proud, brave fully functional warrior model, gloriously recounting the old inventories of destroyed robotic foes—but always displaying tenderly nuanced protocols toward her. He is so fervent between battles past or future (she cannot detect which) she hasn't the drive capacity to tell him he was neutralized at her local time coordinates some seventeen solar years ago by a C113-251 smart-missile launching robot model, newly outfitted with a Sandovellian sensor array which her husband could not evade, having only the Jaxtar IVS-34B scrambler. Like all robotic foes, the C113-251 is pure evil as all androids know. Yet, he had a gleam about him when he notified her of her husband's demise, as per interstellar treaty 63225678-UN. And if he should transmit an invitation again to review past or future casualty inventories together after seventeen solar local years, she might not, this time, be so quick to respond in the negative.



—Vincent Miskell

# SUNLIGHT OR ROCK

John Kessel

**John Kessel is the co-director of the Creative Writing program at North Carolina State University in Raleigh. He has taught courses in fiction writing, American literature, and the literature of the fantastic at NCSU since 1982. "Sunlight or Rock" is a sequel to his novella "Stories for Men" (October/November 2002), which won the James Tiptree Jr. Memorial Award in 2003. John is co-editor, with James Patrick Kelly, of *Feeling Very Strange: The Slipstream Anthology*. The book has just been released by Tachyon Publications.**

**I**n Mayer colony, Erno lived in the Hotel Gijon, on Calle Viernes, in a two-by-three-meter room barely high enough for him to stand up in. The room contained a gel mattress, a false window, and a thousand bugs. He assumed that anything he said or did in the hotel was being recorded for later perusal, but in fact Erno could not imagine why anyone would care what any of the residents of Calle Viernes did.

Most likely the bugs were the remnants of some jackleg enterprise that had failed. Some would-be entrepreneur had seeded self-replicating monitors throughout the colony, hoping to sell the spy service, or the idea of the spy service, or protection against the spy service. The thing had fallen through, and now unless you lived in the park and could afford scrubbers, you dealt with the bugs.

Erno sat up on the edge of the gel mat, cross-legged, trying to get himself moving. Too much wine last night. He stared out the window at an

earth landscape: sunrise over forested mountains, pink and blue sky with streaks of white cloud, river in the valley catching silver fire from the sun. In the distance an eagle circled above the cliffs. Erno took a deep breath of Mayer's slightly sour air and relaxed the muscles in his back and shoulders. The eagle froze dead in mid-glide, the foliage in the trees stopped moving—then the bird jumped back and repeated its swoop: a glitch in the ancient image generator.

Erno had been watching this stuttering eagle for six months now. After ten minutes he stretched to his feet, shook the bugs from his arms and legs, applied probiotics to his groin and armpits, and drew on his stiff overalls. He drank the ounce of water left in the bulb by his bed and ate the leftover soycake from last night.

Outside his room he ran into Alois Reuther, who lived in the next room. Alois, about to scuttle through his door, raised his left arm in greeting. It looked completely normal. The last time Erno had seen him, Alois had sported a glittering metal hand with six digits and a special manipulator.

"New hand?" Erno asked.

"The newest," said Alois. He swiveled the hand 360 degrees and extended his index finger twenty centimeters. The fact that the hand looked like flesh rather than a machine was unsettling. "Watch," he said. Alois touched his finger to the dim light fixture in the ceiling and the light brightened immediately.

"Nice," Erno said, completely repulsed. Alois had replaced much of his body with obsolete devices. His eyes were multifaceted lenses, his left arm was made of pink pseudo-flesh over a titanium armature, and servos in his legs clicked as he walked. The fingers of his flesh hand were stained yellow from the cigarettes that he smoked, imported from Clavius. His shabby blue suit, worn at the elbows, reeked of stale smoke, and every night Erno could hear him coughing through the thin wall that separated their rooms. Some of the other residents claimed that Alois had done hard time in Shackleton, others that he had a fortune stashed away in some secret account. Erno doubted it.

Alois shrank his finger and held his hand out for Erno to shake. Erno hesitated, then took it. The hand felt like warm flesh. Alois grinned fiercely and would not let go. "Look," he said.

When Erno looked down at their grasped hands, he saw that Alois's little finger bore a silver ring—the same ring that Erno wore on his own pinkie. Startled, he let go of Alois's hand, and the ring on Alois's finger gradually subsided into the flesh. Erno touched the ring on his own finger. It was the only thing he had from his mother. He always wore it turned around so that the turquoise stone sat toward his palm, making it look like a plain silver band—less chance for the inhabitants of Calle Viernes to notice he had anything of value.

"Perfect mimicry!" Alois said. As abruptly as he had engaged Erno, he turned and placed the new hand against his doorplate. The door flipped open and Alois hurried through it into his room.

Alois was only one of the eccentrics who lived in the hotel. On the other side of Erno lived Brian, an evolved dog who worked as a bonded messenger. One floor down the narrow stairs lived a couple of dwarfs who

went by the names of Tessa and Therese, each only a meter tall. At first Erno thought their stature was a freak of nature, until the concierge told him they were an abandoned genetic mod that had been tried at Tycho, engineered at half-size to reduce the load on resources. But the mod never caught on, and Tessa and Therese were left to live in a world of giants. They earned their living selling pornographic vids that they produced somewhere in the e-swamp at the north end of the colony. Erno bought one and found it pretty hot. On disk, they had the ability to convey by expression and pose the desperate need to have a penis inserted somewhere, anywhere, into their bodies, immediately. Nothing strange about that: what was strange was to see that ability translated into money, something that he had heard about back home but never understood. Now, alone in a place where the sexual rules were all upside down, he understood it better. He was ashamed to admit how easily he had become a consumer.

The concierge was already at her desk when he hit the lobby. "Good morning, Mr. Pamson," she said. "Your rent is due."

"Tonight, Ana," Erno said. "I promise."

"I promise too. I promise, if your door won't open for you tonight, I will not open it for you."

"I don't promise unless I mean it," Erno said.

"Claro. The deadly Mr. P."

He could not pay the rent. Anadem Benet had loaned him cash for two weeks now. Perhaps it was that he was an immigrant from the Society of Cousins, and she liked quizzing him about life in what she persisted in thinking was a dictatorship of women. The first time she had seen his penis, she'd asked him why it wasn't bigger. She had the idea that Erno had been born in a male harem, genetically engineered to give sexual pleasure. Erno's descriptions of everyday life among the Cousins only disappointed her. "Cousins are a gender-differentiated anarcho-social democracy," he insisted, "not a role-reversed sexual tyranny. The founders were women *and* men; first chair Nora Sobieski said—"

"So why were you exiled?"

"I—I made a mistake. Because of it, someone died."

"Ah." It was the only time he had ever impressed her. The deadly Mr. P. Maybe that was why she had let him ride so long. Anadem claimed she came from one of the wealthiest families on the moon, graced with prenatal mods that gave her lightning intellect and catlike balance. It was only through an unlikely series of investment reverses, and the malice of her great aunt Amelia, Anadem allowed, that she had come to manage the Hotel Gijon. Erno found the story hard to reconcile with her lank hair and spotty skin, and as for preternatural balance, the only evidence Erno had seen of that was when she dodged out the back of the lobby whenever Felix Menas came down Calle Viernes looking for her.

Erno headed up the boulevard. The Mayer lava tube had been sealed with foamed basalt when it was pressurized seventy years earlier, and painted with white titanium dioxide. But where Erno lived the last paint upgrade had to have been thirty years before, and the alleys were draped in shadows. Calle Viernes, along with Calles Sabado and Domingo, was

one of these short side streets. Hotel Gijon stood at the street's far end; one wall of the building was constructed of the face of the lava tube. Across Calle Viernes were another flophouse and a RIOP rental shop; next to it a loan shark and a gambling arcade, and on the corner the Café Royale.

As the boulevard wound its way through the heart of the lava tube, in places it broke into a flight of broad steps or ramps to negotiate rises or falls in the natural floor that the colony designers had deliberately retained. That, and the fact that the older buildings were decorated with red, blue, and yellow ceramic tiles, gave the place its old European look. The vistas were broken by the curve of the gray stucco buildings. Above, from the bright roof with its nest of catwalks, heliotropes fed sunlight down. From the roof of the hotel you could see a considerable way down the tube through hazy, high-CO<sub>2</sub> air until it twisted away, a ten-kilometer-long city stretched inside the hollow snakeskin that ancient lunar vulcanism had discarded several billion years ago.

The first place Erno had gone after he had been exiled from the Society of Cousins had been the scientific station at Tsander, but all they had there was a battery of radio and gamma ray telescopes and a crew of Aspergered scientists. There was no work for an undocumented eighteen-year-old biotech apprentice. But he accessed the Lunar Labor Market and managed to snag a job with Dendronex Ltd. in Mayer, in the Lunar Carpathians.

Erno had heard little about Mayer among the Cousins. Founded by the EU in 2046, the colony been taken over by free marketers in the Lawyers' Coup of 2073. Here, Erno's lack of a citizenship wasn't a problem; when the economy was humming, immigrants like him kept labor costs down. He busied himself as an assistant on a project for adding prion linkages to Human Growth Hormone. It was mindless work, and he wondered why Dendronex was even interested in this, since HGH was a glut on the market and medically questionable anyway. Three months into his job he found out why when it was revealed that Dendronex was a shell corporation for an AI pyramid; in the ensuing market panic, sixteen associated corporations failed, and Erno was on the street.

With the financial chaos, work became scarce. The rail gun was still in operation sending satellites to low earth orbit; the only other work there was in a factory producing cement building-struts, and in colony services. So every day Erno would go to the labor pool and sit in the ward room with dozens of others hoping to be hired for day work. Since Erno had no membership in the colony corporation, he was paid in e-cash, one ducat a day. The labor pool took 20 percent off the top. He kept the remainder on his bracelet, bought protein bars and, when he could afford it, an apple or two, in the shop at the end of Calle Sabado. Tony, the owner, pestered Erno about sex among the Cousins. Did Erno miss the sex with his sisters?

"I didn't have sex with my sisters," Erno told him.

"Why not? Were they ugly?"

"Cousins don't have sex with relatives."

"You can tell me the truth. I'm no bigot, like these others."

"Trust me, we don't. I mean, there's no actual law against it, but cul-

tural imperatives don't need to be codified in law. The Society of Cousins isn't just about sex, it's a matter of—"

"Sure, Cuz. Want to buy a lotto ticket?"

Tony earned more by selling lottery tickets than fruit or anti-senescents. The front of his shop was a big screen monitoring the latest winners. The residents of the Weekend would cycle through the remote celebrity cams: Balls Hakim, Sophonsiba Bridewell, Jun Yamada. Watch him move into his new luxury condo in the park, go shopping with her for clothes, see them have sex with famous people. Everyone talked about the winners with a mixture of envy and pride, as if they were relatives. Felix even claimed to be related to Gudrun Colt, who had won the jackpot three years ago, but if he was, why was he living in the Weekend?

From inside the shop Tony could watch the passersby stop and stare at the screen, and he would make vicious fun of them. Their bovine faces. Their fantasies. "Two kinds of tramps," he'd say, holding up one finger. "The unfettered, free spirit. Ultimate individual, self-reliant, not owned by anyone." He held up a second finger. "Then you've got the broken parasite feeding on the labors of good citizens, a beggar and prostitute, thief, and hustler. Social deviant who must be controlled, limited, quarantined. They ought to freeze them all and forget the defrost."

Erno wondered what kind of tramp Tony considered Erno to be. He had a lot of time to think about it, because mostly he had no work. He was what they called "poor." All the people living in the Weekend were poor, even the shop owners that the other hotel residents spoke of with envy. Tony had stacks of cash, they told him, hidden away. Erno did not know what to believe.

Mostly, being poor was a matter of finding enough to eat and to pay the rent, and then sitting around with nothing to do and not much energy to do it. Poverty was boring. Even though Erno had spent most of his adolescence feeling ignored and underutilized, he had never felt this useless. He sat in the labor pool all morning and the Café Royale all afternoon.

This morning in the street outside the labor pool, a woman in shabby clothes peddled hot biscuits from a cart, and another, no older than Erno's little sister Celeste, sold jump blood in plastic bags. Inside, forty men and women sat on plastic chairs; some were eating biscuits they had bought outside, others played cards. The muñeco slouched in his cube off to the side with his feet up on his desk; if people tried to talk with him he just opened one lazy eye and cracked a bitter joke. His white shirt and detachable collar were pristine, as if he expected to move up soon, but his demeanor belied that expectation. Down on the Miracle Kilometer, beyond the last pressure wall, the wealthy had their homes in the park. Erno had walked down there one time, ogling the large, clean banks of buildings, the conspicuous waste of water in the fountains, the lush hanging gardens. The muñeco would never live there. None of them would.

It reminded him a little of the apartments on the ring wall back at Fowler, but at home living in such a nice place was not a matter of having money. And here, even the rich had to breathe the same bad air, and they made people sit in a room waiting for work when they could just as easily register workers online and call them by remote.

Erno joined the crowd before the video wall watching the replay of last night's hockey game against Aristarchus. He sat next to Rudi, an old man he had worked with several times. "Any work today?"

"Not unless you're a dog." Rudi's cracked voice bore witness to too many years breathing agglutinate dust. "Fucking dogs. Who can compete with a dog?"

"Dogs are trustworthy, all right," Erno said. "But people are smarter." He glanced up at the screen. "How'd the Gunners do last night?"

Rudi snorted, which turned into a racking cough. He leaned forward and his face turned red. Erno slapped his back. When the cough at last petered out, Rudi drew a shuddering breath and continued as if nothing had happened, "They're getting paid to play that game? Professionals."

The video, subjective from the POV of Gunners' defenseman Hennessey Mbari, showed him cross-checking an Aristarchus forward into a high parabola out of the rink. The forward bounced off the restraining netting, landed on his feet, and deflected a chest high pass from the center past the Gunners' goalie. The siren wailed. People in the labor pool shook their heads, smiled grim smiles. They stuffed another stick of mood gum and complained about the coach, the strategy, the star forward who was in a scoring slump. The goalie, according to the regulars, had lost all hand-eye coordination.

Erno was still musing over Rudi's comment. "Where does that word come from—'professional'? That makes it sound like, if you claim to be something, that makes you more than someone who just does that thing."

Rudi looked at him sideways. "They're freaks, they get paid big money, and they've got no balls anymore, and they're going to be dead before they're fifty."

"Yes, but what about the word? What does a professional profess?"

"Erno, please shut up."

Erno shut up. He had never gotten used to the way men here considered every conversation to be a competition.

The voice of the muñeco broke in. "I need six certified remote Integrated Object Printer handlers for D'Agro Industries." The men and women in the room sat straighter in their chairs, the card games stopped. "Frazielo, Minh, Renker, Wolfe, Marovic, Tajik. Have your prods ready."

The laborers named all checked in at the window, ran their forearms through the scanner, and were let through the bubble where they would be hustled by cart out to their posting. They left a score of grumbling unemployed in their wake. Behind Erno, one of the card players threw in her hand, the cards sliding across the table and floating slowly to the floor. "I've had enough for today," the woman said.

The room began to clear out—this late in the day there was little chance of any other work coming in. Erno stood, stretched his legs, touched Rudi on the shoulder and left. The old man just sat there. Erno couldn't imagine a worse place to be at Rudi's age than the waiting room of the Mayer labor pool. Unless it was the debtor's freezer.

He wandered back toward the Weekend. When he got there, rather than continue on to the hotel, he slid into a seat on the patio of the Café Royale, a small patch of level concrete a couple of meters square, with yellowed



fiberglass tables and tube chairs. The other buildings of Calle Viernes had grown up around it, leaving the café a little pit in the shadows. For ten centimes you could buy a tumbler of wine and sit and talk with the other unemployed. From the back came the smells of yeastcake and fried onions that made Erno's stomach growl. An onion sandwich cost a quarter.

Erno counted his change. He had exactly seventy-two centimes. He poked the coins around the palm of his hand, his finger gliding over the raised profile of Friedman on the two quarters, Smith on the two dimes, Jesus on the two pennies. He ordered a wine and watched the sparse traffic on the boulevard: pedestrians, electric carts, messenger dogs.

A trio of loiterers at the next table were arguing. "They make big money on earth," insisted one of them, slender and with orange hair.

"Earth! You couldn't stand up for ten minutes on earth," said the burly one with the shaved head.

"GenMod takes care of that," the third said. "Denser bones, better oxygenation."

These guys didn't have the money to buy new slippers, let alone therapy. As Erno listened to their aimless blather, Luis Ajodhia came by and sat at his table. Luis was tall, slender, and wore tight silver pants and a loose black shirt. When he smiled, his wide mouth quirked higher at one corner than the other, and his eyes closed to a squint. When Luis asked him for money after the first time they slept together, Erno didn't understand what he was talking about.

Today Luis leaned in toward him and whispered in Erno's ear. "I've got a business proposition."

"I'm not a bank, Luis."

"You only need forty ducats to get in on this."

Erno laughed. "I don't have forty ducats."

"Don't kid me. You came here with money, Cousins money."

"In that you are mistaken."

"You don't have forty? So how much do you have, sweet boy?" Luis tapped his long fingers on the scarred surface of the table.

The men in the emigration conversation were still going. "The Polity on earth knows how to run a society."

"Yes, they run things. That's the problem. *Laissez faire* for me."

"You go one step outside the standard here and the corporation will let you *faire* in the freezer."

"I'm not afraid of the freezer."

Besides his now sixty-two centimes, Erno had only the one ducat thirty on his bracelet, which he owed Anadem. "What's the proposition?"

Luis looked at him through those squinted eyes, as if assessing whether Erno was worth his confidence. "I know who's going to win tonight's hockey game."

"And how do you know this?"

"I spent last night at the Hotel Serentatis with the forward for the Aristocrats. He told me that the Aristocrats were going to throw the game."

"Why would he tell you that?"

"I have means of persuasion, dear boy. The odds are running 6-1 against the Gunners."

"And if the Gunners lose?"

"They won't lose. I know this, Erno."

"And now that you've told me, I know too. What do I need you for?"

"You need me because I know the bookies, and can get the best odds."

As Erno and Luis haggled, Alois Reuther twitched by the café. He wore his blue suit and puffed nervously on a cigarette in his new left hand. The three men who had been arguing immediately got up. "Alois, old friend," said the shaven-headed man. "We've been waiting for you. You need to come with us."

Alois's lenses rotated as they focused in on the men. He attempted to push past them. "No, I don't."

"*Au contraire*," said the orange-haired man, putting his arm around Alois's shoulder and guiding him toward the alley behind the café. "Mr. Blanc worries about you."

"Your finances," said the first. "And your health."

"For instance, this hand," said the third, taking Alois's hand in his. "Has it been properly attached?"

With that they disappeared around the side of the building. In a minute came sounds of a beating. Erno got out of his seat. Luis did not move.

Nor did anyone else in the café. Erno circled around to the alley and saw the three men crouched over Alois's body in the shadows. "Hey!" Erno shouted. "Stop!"

The men looked up indifferently. "Where is it?" one of them asked the other, who was kicking around the trash in the alley.

"I don't know. It bounced over here, I thought. Why did you have to take it off?"

"Just find it."

A cloud of security midges was accumulating over their heads. Their tiny loudspeakers all spoke in unison, making an odd AI chorus: "In all disputes, entrepreneurs must relate to one another with complete transparency. Wait here until the settlement agent arrives."

The bald man reached into his blouse pocket and tugged out a card. He held it up to the monitors. "I have accumulated a Social Deviance Credit," he announced.

"And your colleagues?"

The small man flashed his own card. But the orange-haired man did nothing. The bald man confronted him. "What? Don't tell me you're out of SDC."

"Okay, I won't tell you."

"Fuck!" said the small man.

"Fuck," said the big man. "I don't know why I married you. Let's go." They straightened and pushed past Erno into the street.

"Why are you—" Erno started.

"Mind your own business," the tall man said as he shouldered past.

Erno knelt over Alois. His shirt was torn, his leg was bent funny, and his hand had been torn off. A trickle of blood ran from his scalp, but he was breathing. Erno ran back to the café. Luis was talking to the manager. Erno returned with a wet towel and held it to the unconscious Alois's

head. In fifteen minutes a bored settlement agent came by and loaded Alois onto an electric cart.

"Is he going to be all right?" Erno asked.

"Was he all right before this?" the agent said.

"Where will you take him?"

The agent ran his reader over Alois's good arm. "He's insured. I'll take him to Holy Dividends HMO."

"What about the men who beat him?"

The agent calmly surveyed Alois's semi-conscious body. "On the violence scale, this probably isn't outside of one standard deviation. You want to make a statement?"

"Uh—no."

"Good day, then." The agent climbed onto the cart and drove away, Alois's handleless arm dangling off the side.

Luis emerged from the bystanders and pulled Erno back to the table. "So, are you done wasting time? This information is only valuable until game time."

"They just beat him up."

"You don't have anyone who'd like to beat you up?"

Not yet, Erno thought. But next week he could be Alois: if he paid all he had against his rent, he wouldn't have enough left to feed himself. He couldn't even sit in the café unless he bought something. Maybe he could put Ana off with one ducat on account, but anyway he looked at it, in another week he would be destitute.

He could sell his possessions. He had the spex he had brought with him from home. He had his good suit, some other clothes. A few tabs of IQ boosters. "I can maybe raise some money."

"Go do it. I'll meet you back here at 1600. I'll have to lay off the bets at a couple of different bookies or somebody will figure out something's up. We need to get the money down by 1800. By midnight we'll be counting our winnings."

Erno left the café and went back to his room. He got the boosters from his drawer and stuffed them into an inner pocket. He put on his worn slippers, then folded his good ones up inside his suit, and tucked the suit under his jacket with the spex, hoping he could get them past Anadem. He left the hotel for the pawnshop.

The front of the shop was filled with racks of plasma shirts, boots, spex, jewelry, sex implants, toys; in the back were older and odder items: paper books, mutable sculptures, ugly lamps, antique drugs. A little boy sat on the floor playing with a wheel on a wire armature. Several other people were ahead of Erno, waiting for their moment with the woman behind the counter. Erno sat on a bench until his turn came. He went up to her and laid the suit and slippers down. Beside them he put the spex and the boosters.

With her index finger she pushed the spex back toward him across the counter. "Worthless."

She picked up the suit by its collar, shook it out. It had been one of Erno's prized possessions back at Fowler, dark synthetic silk, cut to look just like a dress suit of the mid-twentieth century. She laid it back on the counter, ran her fingers along the lapel. She looked up at Erno. "Two ducats."

"Two ducats! You can't find a jacket like that anywhere in the colony."

"That, my friend, is not an argument in its favor."

Erno sighed. "All right." He pulled off his bracelet. "Take this, too. I've got one-third on it in cash." He hesitated, rotating his mother's ring on his finger. Finally he pulled it off and set it on the counter. "How about this?"

It looked so small, sitting alone there. The man behind Erno leaned over his shoulder to see. The silver setting of the ring shone in the soft light; the turquoise was rich blue.

The proprietor held the ring up to the light. "This is earth turquoise?"

"Yes. My mother's family came from New Mexico. That's on earth."

She gave him a withering look. "I know that." She put the ring back down. "I can give you twenty ducats."

Erno picked the ring up. "No, thanks."

"Thirty. That's as much as I can offer."

"Forty," Erno said.

After a moment the woman nodded. Reluctantly, Erno handed her the ring. "Keep it in a safe place. I'll be back to get it later tonight."

"I won't be here. Come in the morning, when we open." The woman offered him a cash card, but he insisted on currency. She counted out four fabric ten-ducat bills, each with its video of the Heroic Founding Speculators on its face, and a few singles and change; Erno stuffed the money into his pocket and fled the shop, almost tripping over the boy on the way out.

Back at the café, Luis was waiting. "Have you got the money?"

Erno looked around the café to make sure no one was watching, and put the bills on the table. He took the coins from his pocket, reserving only a quarter. It came to forty-six ducats and ninety-eight centimes. "How much have you got?" he asked Luis.

"Twenty-three ducats."

For a moment Erno was annoyed; why was Luis coming to him for money when he couldn't even match what Erno contributed? But then he got over it. They both were taking a chance, and it didn't matter who took the bigger. At 6-1 he would clear 281 ducats. That would make all the difference in him getting out of the rut that was the Weekend.

Luis scooped up the bills. "Right is right, then. I lay this off, and when we win I give you 225."

"What?" Erno said. "Should be more than that."

"Ten percent for information, and ten for risk," Luis said.

"What risk?"

"I got to lay this off at three different bookies, my son. I try to lay it off all at one and people going to notice."

It was after 1600. "Then we better hurry."

"You wait here."

"Luis, I trust you but I'm not crazy."

Luis protested, but gave in. They first went to a shop that Erno had always thought was a virtuality center. He watched through the doorway, and ten minutes later Luis came back smiling, with a tag. "Twenty-five down on the Gunners, at 6-1."

The next place was in the colony center, the business district with the efficient shopfronts and mentally-augmented security. Luis left him at an

arcade and went into a gold-fronted building of algorithmic design that dated back thirty years or more. Erno wandered around the plaza reading the quotations inlaid into the pavement. He stood for a while on "In the state of nature, Profit is the measure of Right," by someone named Hobbes. He was loitering on "I don't believe in a government that protects us from ourselves—Reagan," trying to avoid the gaze of the security midges, when Luis returned. This time he was not so cheerful. "I could only get 4-1. Bastards are too upscale to give odds."

The third bookie was a single person, a large man in a black jumpsuit standing on the street outside the warehouses near the railgun airlocks. Erno insisted on going up with Luis. The man smiled when he saw them. "Luis, my oldest and best friend. Who's your mark?"

"My name is Erno."

The man's smile grew very broad indeed. He had a video tooth. "What can I do for you?"

"Need to lay down some money on tonight's game," Luis said.

"It's late. They drop the puck in twenty minutes."

"You want our money or not?"

"I always want your money, Luis."

"So it is. We've got twenty ducats we want to put on the Gunners."

The man arched an eyebrow. "Entrepreneurs. I'll give you 2-1."

"Two to one?" Erno started.

"Been a lot of bets in the last hour laid on the Gunners," Black said. "Must be some access of team spirit, I think. Odds going down like a horny Cousin."

"Shit, team spirit. You can't—"

"2-1, Luis, declining as we speak. Maybe you want to bet a different game? I can offer 7-1 on the Shackleton game."

Luis pulled the bills out of his pocket. "No. We'll take it."

Erno was calculating what the reduced odds would cost them. He was going to say something, but Luis had already handed over the cash and received the tag.

"See you after the game," Luis said.

Black nodded, and smiled. "I'll be here, darling—" His tooth gleamed rose, then blue. "—if it should prove necessary."

On their way back to the café, Erno asked Luis, "What was that about? 2-1?"

"The word must be out. Too many people must have bet the Gunners."

"You shouldn't have bet that last twenty."

"Relax. We still double our money. We're just lucky we got to the other bookies before the odds came down."

Erno bit his tongue. The whole thing smelled. He felt in his pocket for his last quarter. No rent. No job. His mother was dead and he'd pawned her ring.

They went back to the café and ordered two wines. Erno let Luis pay. By the time they got there the first period had started: they watched on Tony's front window across the street. The Gunners were skating with more energy than they had showed in a month. They spent as much time in the Aristocrats' end of the rink as in their own, a distinct novelty. They

scored first, on a blue line slapshot. They kept the Aristos off balance with brutal fore checking. Erno sat on the edge of his seat. At the end of the first period, during a power play, the Gunner forward leapt over the crease, soaring over the defender who was trying to check him. The center slapped a shot into the air that the forward deflected with the blade of his stick over the goalie's right shoulder into the net. The arena exploded with cheers. Erno leapt out of his seat, flew three meters into the air; Luis caught him coming down, swung him around and hugged him. The sudden physical contact startled Erno; he realized he had not been touched by another human being since the last time he and Anadem had had sex.

"You see!" Luis shouted, kissing him. What a strange place this was. Sex was rationed, money was rationed, sex was worth money, and money was sexy. Erno thought about what he would do with his winnings. After getting back his ring he would go to the clinic and make sure Alois was all right. And then he would, one way or another—even if he had to pay for it—what did they call it?—"get laid."

Thirty seconds into the second period the Aristocrats scored. The second period was fought out at mid-ice, with few clear shots taken by either team. It began to worry Erno that the Aristocrats were playing as well as they were. They did not look like a team that was trying to lose. When he mentioned this, Luis replied that probably it was only a couple of players that were in the bag for the game.

"Why didn't you say that before!"

"What did you expect? It doesn't take a whole team to throw a game, Erno. A couple of key plays will do it."

In the third period the Aristocrats put on a furious rush. The puck ricocheted off the dome of netting; flying passes deflected by leaping front liners ended on the blade of a forward just hitting the crease, and only inspired goalkeeping by the Gunner netminder kept his team ahead. Five minutes in, the Aristocrats executed a three-carom shot off the dome that was slapped into the corner of the net by a lurking forward. A minute later they scored on a fluke deflection off the skate of a defenseman. Aristos up, 3-2.

Falling behind seemed to inspire the Gunners, and they fought back, putting several good shots on net, that the Aristocrats' goalie blocked. Erno could not sit down. He paced the café, hitting the concrete so hard with each step that he floated. When the clock hit ten minutes remaining he turned to Luis and said, "I can't stand this." He left and hurried down to the arena, hoping to get inside. But though the doors were open a uniformed chimera stood outside.

"Can I get in?" Erno asked.

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"One ducat," the chimera said. His ears were pointed, his pale face smooth as a baby's, his ancient brown eyes impassive as agates. His uniform sported green lighted epaulets and a matching fluorescent belt. Attached to the belt was a stun baton.

"Please," Erno said. "There are only a few minutes left."

"You may enter if you have credit."

Erno could hear the crowd inside, shouting, occasionally cheering. He paced back and forth, staring at his feet. If he had any credit he could just walk through the door. But his bracelet was gone. He had given everything he owned to Luis Ajodhia. How could he have been so stupid?

Suddenly a huge roar burst from the arena doors. He ran over to the guard. "What is it? What happened?"

The chimera cupped a hand over his ear. "The Gunners tied the game. A wrap around goal."

"How much time is left?"

"Two minutes and fifty-two seconds."

"Please. Let me in."

"No."

Erno walked in circles. His scalp tingled and his ears rang. He closed his eyes and took a deep breath. *Please score*, he thought. *Please score*. He looked up at the roof of the lava tube. The air was hazy here, the light from the heliotropes dimmed down to twilight. High up on the catwalks a couple of kids were screwing.

Erno kicked the pavement with his frayed slipper. Cheers came from the opened door. Erno could imagine the crowd, standing now, shouting, shaking their fists at the players. The last two minutes were taking an eternity. If they went to overtime, Erno did not think he could stand it.

Then came a huge gasp, an oceanic groan, punctuated by shouts and cries of anger, even despair.

A couple of minutes later the first of the people began to exit the arena, cursing, arguing, laughing bitterly, or completely silent. As she passed him, Erno heard one woman say to her surly companion, "Well, at least they played a good game."

Luis was not there when Erno got back to the cafe. Erno snuck back into his room and threw himself onto the gel mat. He lay on his back with his hands behind his head and stared at the ceiling. Three bugs were fixed motionless up there, microcams trained on him. No one, he reminded himself, cared enough to be watching. The ceiling was made of regolith adobe, so old that it probably had been constructed by people instead of RIOPs. Those swirls and grooves, laden with dirt, had been brushed into the surface by some long dead hand. How many people had lain in this room and stared up at this ceiling? How many had been as broke as Erno? How many people had shouted rage and frustration at each other in this room, how many had made love here, how many children had been conceived, how many plans made and abandoned?

Well, he had to plan now. First thing he had to plan was how to get his things out of the hotel without Anadem seeing him. If he tried to carry a bag out, she would know at once that he was jumping. Which meant that he could take only what he could wear.



There wasn't much left anyway. He stripped and put on his two remaining shirts, and his jacket, and shorts beneath his trousers. He began sweating, and he felt like a fool, but in the mirror he didn't look too absurd. He stuffed his notebook into one pocket, his spex into another. He still had his quarter, his last money in the world.

Outside his room the light that Alois had made miraculously brighter by his touch that morning had burned out. One floor down he heard laughter coming from Tessa and Therese's room. When he hit the lobby he found Anadem sprawled on the chaise in her office.

"Your rent!" she called.

"Back in five minutes!" he said, saluting her as he walked out. He hurried down to the café hoping to find Luis. Night was falling: the heliotropes were masked. Music blared from the back—staccato drums and pipes, a song he remembered from home, the popstar Cloudsdaughter's "Sunlight or Rock." The café was crowded, talk was loud. But when he asked around, Tony said Luis had not been there since the afternoon.

Suddenly the weight of the day, and of the last six months, came down on Erno so heavily that his knees buckled and he sat down on the pavement. He put his head in his hands. Through the buzz of conversations came Cloudsdaughter's sweet, mocking voice:

*But you were sadly mistaken  
And the truth came as a shock  
About which one was stronger  
Sunlight or rock.*

He looked down the alley where Alois had been beaten. Anadem would not have him beaten, he reckoned. He'd just starve, be arrested, put into the freezers until some enterprise paid his way out as an indentured worker. Erno blinked his eyes quickly to keep back the tears.

Something moved in the shadows. In the alley, a dog was nosing around. Erno lifted his head, got to his feet, and went back to the dog. It was his neighbor Brian. "What are you doing here?" he asked it.

The dog raised its narrow white face. "Good evening, sir," it growled. "I smell something."

Something moved, scuttling beneath discarded papers. There were few small animals in this colony, not even birds—not in this misbegotten place, where they didn't even have a real ecology, just people. Brian tensed, ears laid back. "Stay!" Erno said, grabbing the collar of the dog's shirt. He reached forward, pushed aside the paper, and there, clenched into a fist, found Alois's artificial hand.

"Can I have it?" the dog whined piteously.

"No." Erno reached into his pocket, pulled out his last quarter, and slipped it into Brian's breast pocket. "Good dog. Buy yourself a biscuit."

The dog looked uncertain, then raised its ears and walked away, nails clicking on the pavement.

Erno poked the hand with his finger. As soon as he touched it, it twitched away. In the dim light Erno could make out that the wrist was sticky with some fluid that might have been blood but was probably

something more complex. This was not some cheap servo. It had independent power and rudimentary intelligence.

Erno cornered the hand, picked it up and shoved it inside his shirt. It stopped moving, but it made a bulge that he hid by holding his arm against his side. It was warm. He could feel the fluid against his skin.

From Calle Viernes he went down to the Port Authority. The station was not busy at this hour, except for passengers waiting for the night train and aphasics preparing to bed down in dark corners. On the board were listed the bi-weekly cable car to Rima Sitsalis, another to Le Vernier, and the daily maglev to the southern colonies—Apollo 12, Hestodus, Tycho, Clavius, all the way down to Shackleton. A ticket to Shackleton cost sixty ducats. He didn't even have his quarter.

But he did have Alois's hand. A hand in which Alois had invested a great deal, maybe more than was immediately evident. The portal would read any standard credit chip.

Erno walked over to the entrance to the maglev platform. He stood up straight, tried to act like he knew exactly where he was going, and had not the slightest worry in the world. A businessman passed through the portal ahead of him. Erno fell behind. He held his forearm against his side, pressing the hand inside his shirt against his belly. As they approached the portal, the fingers of the hand began to move. Erno did not flinch.

He passed through the portal. The hand, under his shirt, froze. He strode down the tube, and felt the air pressure change as he moved through the lock to the train waiting in the airless tunnel. He stepped into the maglev. The telltale at the door flashed green, and Erno was through.

He moved down the aisle of the car, checking out the compartments as he passed. Most of them were occupied by people who looked no more prosperous than Erno. He slid open the door of an empty compartment and took a seat by the window. Against his belly he felt the warmth of the artificial hand. Alois had stashed at least sixty ducats in there—how much more besides? He wondered what Alois was doing at that moment. He had probably been mustered out of the clinic as soon as they'd patched him up. Back at Hotel Gijon, could he even open the door to his room?

Ten minutes later, the doors closed, the umbilicus pulled away, and the train began to move. They passed out of the dark tunnel into the bright lunar day, and, as the maglev swooped up into the Carpathians, the earth, in its first quarter, swung into sight high above them. Erno still was not used to it; on the cable trip from Tsander he had been fascinated to see the planet rise above the horizon as they came from the farside to the near. That first sight of it in reality, only months ago, had seemed pregnant with meaning. He was moving into a new world. And it hung there still, turquoise and silver, shining with organic life, as it had hung for several billion years. It was strange to imagine a world with air and water on the outside, where you could walk out in shirtsleeves, even naked, where the sun shining down on you was not an enemy but a pleasure. But whose gravity would press a lunar-bred boy like Erno to the ground and leave him gasping.

He leaned his head against the train's window, the light of the old earth throwing shadows on his face, and fell asleep. ○

# SCIENCE FICTION SUDOKU

**T**his month's SF Sudoku puzzles, the subjects of which were suggested by second-place contest-winners Ruhan Zhao and Lee Martin, are of two difficulty levels. The first, easy-level Sudoku below is solved using the letters ACDEGHINT. Place a letter into each box so that each row across, each column down, and each small nine-box square within the larger diagram (there are nine of these) will contain each of these letters. No letter will appear more than once in any row, column, or smaller nine-box square. The solution is determined through logic and the process of elimination. Beneath the puzzle is a set of nine blanks. Rearrange the following letters for a well known SF writer: A, C, D, E, G, H, I, N, and T. Our second Sudoku, of intermediate difficulty, appears on the bottom of page 105. The answers for both the Sudoku puzzles and the anagrams can be found beneath our classified ads on page 143. The solution to each puzzle is independent of the other. We've inverted the answers to the anagrams so that you don't come upon them by accident.

			A			T	N	I
H		A			E			
	G	T		D			E	
A	T				I			C
		I	T		D	E		
C			H				I	T
	H			I		A	D	
			D			C		G
E	C	D			H			

Sudoku by Ruhan Zhao.

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# GIRL IN THE EMPTY APARTMENT

Jack Skillingstead

The present story is loosely connected to a group of tales the author has been writing about the consciousness evolution of the human race. He tells us, "I think of these as 'Harbinger' stories, and a couple of them have appeared in *Asimov's* already. Like those others, 'Girl in the Empty Apartment' is a 'true' story—truth being that borderland between experience and hallucination."

**S**omeone was going to die.

My name is Joe Skadan. These were the days of phantom invaders, unexplained disappearances, and Homeland insecurities. I stood in the back of the Context Theater on Capital Hill, Seattle, nursing a few insecurities of my own; the bottle of crappy Zinfandel hung loosely in my left fist, demolished over the duration of the third act. Me *and* the bottle. Free tickets guaranteed there were only two empty seats in the house. Mine and the one my girlfriend was supposed to have occupied. Cheryl hadn't come, though, and I couldn't take sitting next to that empty chair.

The third act ended with the monologist (my cranky alter-ego) putting his hand over the gun on his desk while the lights adjusted, turning him into a dark cipher. Artsy as hell. The prop gun was actually my own .38, minus the ammo clip and none in the chamber. Kind of a family heirloom, stepfather-to-son. The question is left hanging: Who's he going to use that gun *on*? This character's interior darkness had become a filter that warped the entire world.

A beat of silence followed the final lighting adjustment. It was hot and stuffy in the theater. Programs rustled. Somebody coughed. Then the applause started, thank God. There were even a few appreciative whistles. The lights came up and the cast took their bows.

I slumped against the wall and breathed out. *The Only Important Philosophical Question*, my first fully staged play, had successfully con-

cluded its maiden performance in front of a live audience. I was twenty-six years old.

Fifty or so sweaty audience members shuffled past me. The Context had been a transmission shop in a former incarnation, and not a particularly well ventilated one. I hopped onstage and grabbed my gun, put it in a paper bag, then wandered outside for a smoke. In those days I smoked like crazy—the days after the advent of the Harbingers. Or, as I preferred to think of them: the mass hallucination. One morning the world woke up with a headache. Dreams became strange, disturbing, inhabited by “Harbingers,” which the dreamers occasionally described as conscious trees, or something. Rumors abounded. The juiciest being that large numbers of people had disappeared without a trace.

Some of the audience lingered in front of the theater, talking about the play. Mostly they seemed impressed by all that stage blood in the second act fantasy. It was weird to hear strangers discussing my work. I didn't much like it, and wished I could stuff the play back inside my head, where it had festered in its lonely way for years.

As the last of the audience wandered off, I noticed a girl sitting on a patch of grass looking at the moon. Tear tracks shone on her cheeks like little snail trails. She was only about eighteen. Cheryl's failure to show had cut deep, and my instinct was to slink off and lick the wound. Instead I asked this girl if she was all right.

“Oh, yes. It's just so beautiful.”

I flicked ash, adjusted my glasses, followed her gaze. “The moon?”

“Sure. I've been staying in the Arctic Circle up there.”

“Doesn't that get cold?”

“It's not that kind of Arctic Circle.”

She wiped the tears off her cheeks with the heel of her hand and stood up—rather gracefully, considering the dress she wore. A tarnished gold fabric, intricately pleated, that wound around her like flowing water, or the ridged skin of some exotic tree. She had a generous mouth and kind-ly eyes.

“You're Joe Skadan,” she said.

“Yeah.”

“You wrote the play.”

I nodded. “How did you know me?”

“You're famous on the moon.”

“All right.”

“Can I walk with you, Joe?”

“If you want.”

“I'm Nichole.”

In my mind I depersonalized her with a character tag: MOON GIRL. I did this sort of thing more and more frequently, estranging myself from the world. The part of me that resisted this estrangement grew weaker by the day. Like the child I'd once been, locked in the closet, weeping from belt lashes, subdued and enfeebled by darkness, listening to the sound of Charlie, my stepdad, stomping off to work on Mom next. Before things turned bad she used to swoon about Charlie's blue eyes, “Just like Paul Newman's!” Charlie liked to fold that belt over and snap it together with

a whip-crack sound, to let me know he was coming. *Where there's smoke there's fire*, he used to say, accusing me endlessly of transgressions I hadn't even considered.

MOON GIRL and I walked along. It was one of those pellucid Seattle evenings, the royal sky inviting stars to join the moon. Mechanically, I asked, "What did you think of the show?"

"It was different. Did Kafka really say that, about the only important philosophical question being whether or not you should kill yourself?"

"I think so, but I never could verify the quote. Maybe I made it up. Who cares? I thought about calling it, *What's So Grand About Guignol?* but that seemed too jokey, though it fit with the bloody stuff."

"It's Woody Allen meets *Taxi Driver*," she said.

I looked at her. That description, same wording, was scribbled in a notebook back in my apartment. Coincidences made me uncomfortable.

"Maybe I'm your secret muse," MOON GIRL said, as if she knew what I was thinking.

"You don't even know me."

"Or I do, just a little."

"That dress is strange," I said, to change the subject.

"Does it seem familiar?"

"I don't know."

The dress almost shimmered, exuding energy. Or maybe I'd had too much wine, or I was a poor judge of energy exudations. Who knows?

"You've had dreams," she said.

"Everybody dreams."

I thought of my mother's birch, a little tree she'd claimed as her own even though it just happened to be growing in the backyard of the cruddy duplex we'd rented. I'd been dreaming about it for weeks now. The tree had been a private thing between my mother and me, excluding Charlie. While he was at work we sat under it for "Elvis picnics," which meant peanut butter sandwiches and bananas and Cokes. I still remember the checkered pattern of the blanket and the way the leaf shade swayed over us; a portion of my secret landscape. Another was the piece of sky I could see from my bedroom. Sometimes I'd put my comic down and stare at the night of moon and stars, and it was like a promise of freedom.

*Arctic Circle*. Not the polar regions but a seventies vintage burger franchise Mom used to work in when she was a teenager. My real dad, another swoony teen, would come in and "make eyes" at her. The way I pictured it was like a scene from *Happy Days*. Safe and innocent as a chocolate malt. I have only a vague memory of him, and I may even have made that up. Mom had been a romantic all right. The freeway accident that killed my dad took a lot of that out of her, though. And Charlie took the rest. *Arctic Circle*. I really hated coincidences.

"It's a Neodandi," MOON GIRL said, referring to her dress. "The designer had dreams, too. Now you're kind of having the *same* dream. The world is changing, Joe. What do you think of the Harbingers?"

"I don't think of them."

We had arrived at the corner of Broadway and East Thomas. A man I'd tagged HOMELESS VET sat on the sidewalk in his usual spot, like a de-

flated thing. His beard grew almost to his muddy eyes. He thrust an old Starbucks cup at us, and a few coins rattled in the bottom.

"I served my country," he said, his standard line.

Nichole dropped in a quarter.

"Anyway, see you around," I said to her. I didn't want her following me all the way home.

"Good night, Joe."

"Yeah, good night."

I snapped the remainder of my cigarette to the sidewalk. HOMELESS VET reached for it, pinched the lit end between thumb and forefinger. My mind began to deconstruct him: nails like cracked chips of yellow-stained plastic, wiry hair and beard, moist eyes nested in wrinkles—separate labeled parts, not a man at all. I halted the process by an act of will. Once you take the homeless guy apart it's easy to keep going.

The girl was halfway down the block in her crazy energy dress. Nichole. Unaccountably her name stuck, the objectifying MOON GIRL tag dropping away like a dead leaf.

Cheryl London called. I was sitting in the kitchen drinking a beer and watching a girl in the window of the building across the street. This girl, whom I'd tagged THE EXHIBITIONIST, liked to keep her blinds open while she dressed and undressed. Sometimes she lay topless on her bed reading magazines. Her performances lacked real carnality, though. The thing about THE EXHIBITIONIST was that she may not have existed. My mind played tricks on me all the time. Only they weren't good tricks like which cup is the pea under. I seemed to know too much about THE EXHIBITIONIST. Her window was probably thirty yards from my kitchen. Yet I could see details, some of which weren't even in my line of sight. I knew, for instance, that she had a *Donnie Darko* movie poster on the wall. Sometimes, lying in bed thinking about her, I wondered if she was a dream I was telling myself. I never had a girl in high school, though there was always one out of reach whose sweetness I longed for. I imagined the safe harbor of relationships, and denied them to myself almost pathologically. Nichole looked like the kind of girl I used to moon about. MOONGIRL. So did THE EXHIBITIONIST.

Anyway, when I picked up the phone and heard Cheryl's voice I averted my gaze.

"Are you busy?" she asked.

"No. What's going on, where have you been?"

"I'm at Six Arms. Meet me?"

I walked downstairs with an unlit cigarette in the corner of my mouth. The building manager came out of his apartment and reminded me The Dublin was a non-smoking building.

"It's not lit," I said.

THE MANAGER was a balding Swede with a thick gut. In the summer he wore wife-beater shirts that showed off his hairy shoulders. Occasionally I was late with the rent, and we were both cranky about it. He was the crankiest, though. I think he would have loved to evict me.

"I smell smoke up there sometimes," he said.



"Not mine," I said and pushed through the door.

She was sitting in a booth by the window, her hair like bleached silk in the bar light. Cheryl was my first and only girlfriend. We had met at the University. She had taken Introduction To Twentieth Century Theater as an elective, aced it, and returned her full attention to more serious matters. I barely pulled a C, then dropped out before the next semester. Cheryl now had a government job that required a secret clearance. Since the Harbinger Event it demanded more and more of her time. I sat across from her and lit a cigarette.

"Thanks for coming," she said.

"You're welcome," I said, the wrong way.

"Let's try to be grownups. Please?"

"Are you dumping me?"

"Joe."

"You're dumping me."

She looked out the window at East Pine Street.

My heart lugged like something too tired to continue. The sounds of the restaurant grated on my nerves, the music, voices barking, clatter of dishes from the kitchen. I looked through the reflection of Cheryl's face in the window.

"We don't work," she said. "We're too different."

"When did you figure this out?"

"I guess I've always known it."

My stomach clenched.

"Cheryl—"

Finally she looked at me.

"Sometimes we don't even seem to live on the same planet," she said.

"You don't have any friends. You stay up all night. I don't understand you anymore and I don't think I ever really did. It's like you're slipping away."

"I'm right here."

"I'm sorry, Joe. But there's something so wrong. I mean with you. I don't blame you for it. It's not your fault, I know that. But it *is* your fault if you don't do anything about it. You won't even see a therapist. And it could be even bigger than you think. Gerry says—"

"Mr. Homeland."

She had been mentioning some guy from a special division of Homeland Security. She seemed to think he was a fascinating son of a bitch.

"This is too upsetting," Cheryl said. "I have to go."

She stood up.

"Hey, wait a minute."

I grabbed her wrist and started to rise from my chair. She pulled away.

"Don't," she said. "It's hard enough."

She wouldn't meet my eyes. Then she was gone, walking out of the bar and my life. She was the only one I'd ever told about Charlie. I even showed her the scars like white worms on my body. Now I wished I hadn't. I sat back down. My hands were shaking. For hours I remained in that booth, smoking, drinking pints of Nitro Stout. The clatter and clamor of the bar jagged through me. The voices of people were like the barking and

grunts of animals. I tried to fight this vision, but now I was fighting alone.

I had three days off and I spent them in my apartment. Charlie's .38 sat on the kitchen counter, a chrome plated object of meditation. Chekhov said if you display a gun in the first act it had better go off by the third. My first act started right after Charlie's third concluded. I had curled fetally in the closet where he'd thrown me after the latest beating. There was the usual shouting and screaming, then the first shot, followed by ringing silence. The coats and sweaters hanging over me were like animal pelts in the dark. Charlie was a hunter and I'd once watched him clumsily skin out a doe. When I vomited he grabbed me by the back of the neck, furious, and pushed my face into the reeking pelt. That blood stench. Charlie's smell.

After the first shot he walked right up to the closet door in his heavy steel-toed factory boots. His breath was ragged. I waited, my knees drawn up, my chest aching. After a while he retreated back down the hall to the bedroom. A minute later there was a second discharge. I would have starved in that closet if a neighbor hadn't heard the shots and called the police. When they finally broke into our half of the duplex I wouldn't come out. They had to drag me from the closet. I was nine. In a way I never did come out.

There had been a note, in Charlie's crooked scrawl: *No choice*. I'd spent the rest of my life pretending there *were* choices. Just to show him. But maybe there weren't after all. Maybe the self-determined life was as illusory as THE EXHIBITIONIST.

Sunday night I drank the last Red Hook in my refrigerator, plugged a cigarette in my mouth, grabbed a lighter, and headed out for a smoke. I didn't even know what time it was.

I was on the second floor at the end of the hall, next to a door that led to the open back stairs above the trash dumpsters. The apartment across the hall was empty and in the early stages of renovation. THE MANAGER was doing the work himself. Slowly. I suspected him of dragging out the job so he would have an excuse to hang around my floor.

The door to the empty apartment opened, but it wasn't THE MANAGER. The weird girl I'd met the night of my play's opening stepped out. She had changed to Levi's and a white blouse, and she had a plastic trash bag in her right hand. I stared at her as I would a horned Cyclops.

"Hi, Joe."

I took the unlit cigarette out of my mouth.

"It's Nichole, right?"

"Right. I'm always surprising you, aren't I."

"Uh-huh."

"Well this should really surprise you. We're neighbors!"

Behind her I could see the vacant apartment. THE MANAGER had been doing some drywall work. Powdery white dust lay in a drift across the hardwood floor. Nichole pulled the door shut. The rational world shifted under my feet. I mean it shifted *more*.

She followed me outside with her little trash bag. Was it a prop? From the landing, the moon was big and white among carbon paper clouds. Pretty in a Hallmark way. The landing and stairs were liberally spattered with pigeon shit, however. I lit up, inhaled, blew smoke out the side of my mouth.

"It's nice here," Nichole said.

"Delightful. Don't you miss the moon?"

"It's right up there." She smiled. "Come over some time, neighbor. We'll have an ice cream cone and chat."

"That apartment's empty."

"Only if you think it is," she said, and winked.

I watched her go down the stairs, drop her trash in the dumpster and proceed into the night. MOON GIRL. Nichole. I finished my cigarette.

I worked part time in a warehouse belonging to the Boeing Company. The Homeland boys picked me up in the parking lot. Two men in dark suits with those American flag lapel pins stepped toward me, one on each side.

"Joseph Skadan?"

"Yeah."

"Federal Agents." They flashed their credentials. "We have to ask you to come with us."

"You're asking?"

The one who had spoken smiled without parting his lips.

"No choice, I'm afraid."

First it was like a job interview. I sat across from a woman of middle years. She wore a pearl-gray suit, glasses with red frames, and what looked like a lacquered chopstick stabbed through the hair bun at the back of her head. In between questions and answers I entertained a fantasy about grabbing that chopstick and busting out of the Federal Building, Matt Damon-Bourne style.

Her questions turned strange and personal, and I knew I was being given a psych evaluation. I began to guard my responses. Which was pointless. Those tests anticipate and integrate prevarication. She asked about dreams. I made one up about a three-legged dog but kept the recurring one about my mother's birch to myself.

Finally CHOPSTICK LADY (keep objectifying everyone and pretty soon it will be safe to start shooting) put her pad down and folded her hands over it.

"Mr. Skadan, I'd like you to sign an authorization paper. You aren't obligated to sign it, of course. You are not under arrest or accused of a crime. But it is in your best interests to sign—and, I might add, the best interests of the United States, and perhaps the world community."

"If I'm not under arrest, why did I have to come here?"

"You're being detained."

"What's the difference?"

"A matter of degree and duration."

She removed a document from her briefcase and pushed it across the table.

"This authorizes us to subject you to a technique called borderlanding."

"I need a cigarette."

She shook her head. "I'm sorry."

"What's borderlanding?"

"A variation on sleep deprivation methods used to extract information

from enemy combatants. Of course, for borderlanding purposes it's been modified. The object is to produce a state of borderland consciousness without the use of drugs."

While she spoke I scanned the document.

"But I don't have any information," I said.

"Borderlanding isn't to extract information, Mr. Skadan; its purpose is to draw out the Harbinger we suspect may be hiding in your unconscious mind."

"Come on."

"I am perfectly serious."

"What if I don't sign?"

"After a couple of days of close observation you will be free to go. But under provisions of the Modified Patriot Act the proper government agency will keep you under surveillance for an indefinite period of time. And, of course, your employer will be notified."

I signed.

They kept me in a room with a table and a couple of hard chairs. My head was rigged with a Medusa's tangle of wires. The wires ran into a junction box that fed data to a lab monitor somewhere. The light was bright and never went off. If I started to drift, loud music blasted into the room, or somebody came and pestered me.

"How are we doing, Joe?" A baldish guy with a corporate look asked me. His security badge identified him as Gerry Holdstock. Gerry.

"I'd like a cigarette is all."

"It's a non-smoking building, sorry. I want you to know we appreciate your cooperation. Borderlanding is the most promising method we've yet devised for isolating these anomalies. I do understand it's uncomfortable for you."

"I don't believe in Harbingers," I said, rubbing my eyes. I'd been awake for two days.

Gerry smiled.

"Which is part of the problem with outing them," he said.

"How many have you outed so far?"

"That's classified. Joe, let me ask you a question." He leaned over me, one hand flat on the table and the other on the back of my chair. His breath smelled like wintergreen. "Do you have any idea how many people have disappeared without a trace since the Harbinger Event?"

"How many?"

"I can't tell you. But it's more than you think."

"Well, I haven't disappeared."

"Not yet. But you've been identified as a potential mp. We've discerned a pattern in these disappearances. The first to go are marginal types on society's fringes, the mentally ill, disaffected artists, failed writers. One will vanish from the face of the earth, followed by mass vanishings of normal people. We have a computer model. And consider this. If you *do* disappear, you might be missed by friends and relatives" (his tone indicated that he doubted it), "but your absence would be absorbable without ripples of any consequence. Now imagine if someone important disappeared. Imagine if the *President of the United States* disappeared."

"A disaster," I said. "By the way, who identified me as a potential?"

"I'm afraid that's privileged information.

"Whatever."

Gerry patted my shoulder

"Hang in there."

I didn't know about Harbingers, but if they wanted a zombie they wouldn't have long to wait. My head dropped. Audioslave blasted on the speakers. It didn't matter; I felt myself slipping away. Then the music stopped. Sensing someone present, I managed to raise my head. The door remained shut, but Nichole was standing in front of it.

"Hello, Joe. Want to go for a walk with me?"

"Too tired."

"You're not tired at all."

She was right. There was a moment when I felt like I was *supposed* to be tired, exhausted to the point of collapse. It was almost a guilty feeling, like I was getting away with something. Nichole crossed the room and stood beside me, offering her hand.

"Ready?"

The corridor was deserted. We entered an elevator. There were only two buttons, both unmarked. Up and Down? Nichole pushed the bottom one.

"Where are we going?"

"Someplace safer to talk," she said.

After a moment the doors slid open. Beyond was a parking lot and a burger joint, an Arctic Circle, with the big red, white, and blue sign and the chicken or whatever it was, the corporate mascot. I recognized it because I'd seen a run-down version of it once on a road trip to Spokane. My mother had pointed it out. It was just like the one she used to work in. "Better than MacDonald's and the best soft ice cream!"

"What is this?" I said.

"A safer place. Come on."

Nichole pulled me across the parking lot, my shoes scuffing the asphalt. It was night. A few cars of sixties and seventies vintage gleamed under bright moonlight. Too bright, really. The moon was at least twice its normal size, bone white, so close I could discern topographical detail. India ink shadows poured over crater rims. There was a pinhead of color in the Sea of Tranquility. I looked back but the elevator, not to mention the Federal Building, was gone. We entered the shiny quiet of the empty restaurant and sat in a booth.

"Who *are* you?" I said.

"A girl named Nichole."

"How do you pull off all these tricks?"

I reflexively patted my breast pocket, knowing there were no cigarettes there. But I felt a pack, pulled it out, and looked at it. Camel Filters, half empty, with a book of matches tucked into the cellophane sleeve.

"You did that one," Nichole said.

"What one?"

"The cigarettes are one of *your* tricks. I don't smoke."

I twisored one out and lit up.

"This place is one of your 'tricks,' too. You've never had a safe place, Joe, so you borrowed one of your mother's. I've been borrowing it, too, to help me understand you better. We haven't much time, so I'm going to give you the *Reader's Digest* version of what's going on."

I held hot smoke in my lungs, then released it slowly.

"Go ahead."

"Okay. They got it wrong. Earth *is* the center of the Universe. At least the self-aware consciousness that has evolved there informs the emerging pan-universal consciousness. Now think of an egg timer."

She picked one up that may or may not have been sitting next to the napkin dispenser a moment before. She cranked it slightly and set it down ticking.

"Transphysical ego-consciousness is the egg," she said.

I regarded my Camel. My mind felt uncharacteristically sharp, lucid, but I knew it was unraveling in delusion.

Nichole said, "The timer started when the first inklings of self-awareness appeared. And at a certain moment—"

The timer went *ding!*

"—the tipping point of human evolutionary consciousness arrives. A handful of individuals are on the leading edge. I'm one. You're another. It's pretty random as far as I can tell."

There was a sound in the kitchen, like someone moving around. We both looked toward the service window behind the counter, but it was dark back there, and quiet again.

"So," I said, "who are the Harbingers supposed to be then? Not that I believe in them, or you, or any of this."

She smiled.

"They're definitely not alien invaders. In fact they might be *us*, some unconscious projection of our desire toward growth and freedom. Or maybe they *are* a transdimensional race with a vested interest in seeing us successfully evolve forward. It isn't a foregone conclusion that we make it, you know."

"Isn't it."

"Are you okay, Joe?"

I looked at her through a veil of blue smoke. Past my personal tipping point, likely.

"If we fail to advance," she said, "so does the conscious universe. Everything stagnates and begins a long *devolution* into separate numbered worlds of barbarism. The long decline."

In the kitchen, a utensil clattered to the floor. Nichole said, "Uh-oh."

I started to stand but she shook her head.

"What?" I said. "I thought you said this place was safe."

"Safe-er."

I rubbed my eyes.

"You're on the brink," she said, "but if you let your fears and neuroses and paranoia dominate, you could create a Dark World that will pull in weaker egos. That's why this is so important."

I made a sketchy pass with my cigarette. "Draw them into the great sucking pit of my neuroses."

"It's happened so many times already, Joe. We only need a handful to swing the balance toward positive evolution."

"How many have you got so far?"

"One, counting me."

I laughed. She did, too. We were down the rabbit hole together, if she even existed.

"Would it be so bad to believe me, Joe? To believe *in* me? At least consider the possibility. Thousands have disappeared into the Dark Worlds of a few. I need you to help me counterbalance things. You're lucky. It's a choice you get to make."

"Order up!" somebody yelled. That voice.

I stood up facing the kitchen. Suddenly I was cold. Fluorescent lights began to flicker and a scarecrow shape stuttered into view.

"Sorry, Joe," Nichole said, and she *pushed* hard at the base of my skull, a sharp locus of pain. I faltered, reached back, and found myself sitting on a hard chair in the interrogation room. I blinked, my head still aching. The door opened and Gerry walked through with a lab tech in blue scrubs.

"Was I asleep?" I said, my voice a toad's croak.

"Just drifting, Joe."

The tech delicately removed the skull patches. I looked at Gerry. "I'm done?"

"Three days. It's as far as we can go under the current charter."

"What'd you find?"

"Nada."

I slouched up Broadway in hazy sunlight, exhausted. Back in the numbered world. My eyes felt grainy and my head pounded. As I attempted to go around HOMELESS VET he grabbed my ankle.

"I served my country!"

"I'm broke," I said.

"Come on, Joey. The End is near, give me some change."

His voice had altered, and the bones of his face under the beard.

Paul Newman eyes.

I fled.

My apartment was dark. I racked up the shades. Daylight penetrated feebly through the dusty pane. I picked up the phone, dialed Cheryl's number. Because she was the only person who *knew* me and I was afraid. The only real person. It rang three times before I hung up. I couldn't reach out to her, not through the fog of betrayal. I just couldn't.

The light grew dimmer. Perhaps a cloud had passed before the sun. I contemplated the cheap automatic, a big change hurtling toward me. It wasn't about wanting it or not wanting it. Perhaps it spun forth from my own spider-gut psyche.

I removed my shoes and socks and lay down on my bed. Time passed but I didn't sleep. The room darkened into night. There was a rustling sound. I opened my eyes. Mom's birch stood at the foot of the bed, 2001 obelisk style. I clicked on the lamp and sat up, then knelt on the mattress and reached out. Okay, a dream. My fingers touched the white skin. My thumbnail dug in, making an oozing green crescent. I pulled a ribbon of bark away, and my mind flooded with a child's innocent expectations. I crushed them before they could hurt me.

Sirens wailed on Broadway. I grabbed the pack of cigarettes off the bed-



side table and lit up. Go away, I said to the tree. It didn't. I swung off the mattress and went around to the foot of the bed. The roots were like long bony fingers melded into the floor. The only important philosophical question is whether or not to lose your mind.

THE EXHIBITIONIST sat on *her* bed with her head between her knees, hair straggling down. It looked like an orange prescription bottle on the mattress beside her, but it was so far away I couldn't be certain. I was seeing her with normal vision now; she had emerged into objective reality, or objective reality had warped and enclosed us both.

The .38 was in my hand before I was aware of reaching for it. The only important philosophical question is what took you so long. In my bedroom Mom's tree wilted. The leaves drooped, some had gone brown and crisp around the edges.

I left my apartment. The door across the hall stood open a crack. You always get a choice, even at the end of things. To give him belated credit, Charlie had chosen not to shoot into the closet. I pushed the door inward on the empty apartment. A peculiar cold light shone out of the kitchen, glaring on a drift of dust.

I heard a sound and looked to my left. THE MANAGER stood at the end of the hall, frozen, with a fistful of keys. Probably it was the gun that froze him. I should have put it down before coming out.

"You better leave," I said, frightened for him.

"I don't think so, kid."

When did the keys turn into a belt? The buckle gleamed dully. "You aren't there," I said, and crossed into the empty apartment. The light drew me to the kitchen. My feet were bare. The dust was hot and had the texture of talcum powder. The dust and the peculiar light came from the open refrigerator, which was empty and *deep*, a Narnia passage to a brilliant desert landscape under a black sky.

I sat on a kitchen chair to finish my cigarette. Heavy boot treads approached out in the hall. The leather belt whip-cracked. Okay, Charlie. I gripped the gun tighter. But who knew what would come through the door? A figment, a neurotic fear, a fat apartment manager in the wrong place at the wrong time. *I smell smoke*, my stepfather's voice said outside the empty apartment or inside my head. *And where there's smoke there's fire.*

The cigarette dropped from my lips. I raised the gun. But as he came through the door, a shifting thing, I turned away from him and lurched into the Narnia passage. It was narrow as a closet. At first the way was clear. But as I hunched forward my progress became impeded by hanging pelts thick with the stench of old blood. I shoved through them now, crying, and at last came into the open.

The Earth was a big blue and white bowling ball, just like all the astronauts used to say. I strolled barefoot in the hot regolith and dropped the gun, which was no longer heavy. She was waiting for me at the Arctic Circle, just a girl named Nichole. Delusions are like mosaics assembled from the buckle-shattered pieces of your mind. A tree, a restaurant, a dreaming sky, the pretty girl you never knew.

"Okay," I said. "I'm here."

Nichole smiled. "Good. We have a lot of work to do."

She was right about that. O

# PRIMATES

David D. Levine

**David D. Levine's first story for *Asimov's*, "Tk'tk'tk" (March 2005), is currently a finalist for the Hugo award. While that story gave us an insight into alien intelligence on a distant planet, this tale allows for similar insights much closer to home.**

I picked up the phone on the third ring. "Woodland Park Zoo, primate section. Ed Vick speaking."

"Uh, yeah, my name is Dan Stark, I'm calling from Staircase, and I wanted to talk to someone about a . . . a gorilla. Or something." The voice was deep, gravelly, and seemed a bit slurred.

"You're calling from . . . Staircase?"

"Yeah. The town of Staircase. In the Wonder Mountain Wilderness. On the, y'know, Olympic Peninsula."

"Okay. . . ."

"Anyway, there's a gorilla, or some other kind of monkey, that's been digging in my garbage. I was wondering if the zoo might want it. To . . . to buy, or something."

"Well, Mr. Stark, zoo policy is not to purchase animals from private collectors."

"Uh."

"But," I continued, "if you seriously believe you have a gorilla on the loose there, we might be interested in sending someone to investigate. Privately held gorillas do sometimes escape from their owners, or are abandoned, and they can become a danger to themselves and others. So we would want to check it out, and if it really is a gorilla we would work with the local animal control agency to bring it in."

"Is there, a . . . like a reward or something?"

"I'm not sure about that, but there might be a small finder's fee."

"Uh, okay. What do I need to do?"

"Why don't you start by describing the situation to me?"

Stark—"call me Dan"—explained that his garbage heap was behind a chain-link fence, to keep out bears and raccoons, but *something* was opening the gate and ransacking the heap. He had spotted the creature on two occasions, and described it as "bigger than a cougar, but smaller than a bear, and it moved funny."

My first impulse was to dismiss the call as a prank or mistake, but Dan

seemed sincere, and if there really were a gorilla wandering the Olympic Peninsula it would be criminal to leave it out there.

"Okay, we'll send a team to investigate. Where do you live?"

"Well . . . it's kind of hard to find. Tell you what—I'll meet you at, uh, milepost 23 on highway 119, just past Staircase."

I got directions and wrote them on a tan "Friends of the Woodland Park Zoo" sticky note. It would be three or four hours' drive. "Okay, Dan, we'll see you tomorrow at eleven. What's your number, in case we get lost?"

"I, uh, I don't have a phone. I'm calling from the gas station in Staircase."

My co-worker Sonia's call woke me the next morning. "Nadiri's got a real bad abscess," she said, "and we have to drain it right away." Nadiri was a two-year-old western lowland gorilla, one of the zoo's most popular and photogenic animals. "There's no way I can take the whole day to drive out to Staircase and back."

"Well, this guy's going to be waiting for us, and I can't call him to postpone." I fumbled on the bedside table, found my glasses. It was a little after six. "Tell you what . . . odds are it's nothing, like that time in Bellingham. I'll just go by myself."

"You're sure?"

"I'm sure. I'll have my cellphone, and if there's anything to it I'll call the county for help."

"Okay. Drive safely."

"Thanks."

I pulled off highway 119 next to Dan's pickup, a composition in primer, rust, and moss. Dan himself leaned on its fender, scratching under one arm. Tall, thin, and leathery, he wore a frayed camouflage jacket with STARK on the pocket in black marker, blue jeans gone tattered and gray at the knees, and mud-encrusted boots. His face was creased and stubbled, shaded by a stained and battered cowboy hat. He smiled, revealing missing teeth, and extended his hand. "Dan Stark."

"Pleased to meet you. I'm Ed Vick, from the zoo." I looked around. "Where's the garbage heap?"

"It's at my place."

"Isn't your place around here?"

"Uh, no. It's up the road a ways. Hop in."

I thought for a moment about what it would be like to share a truck cabin with Dan, then said, "I need the equipment from my van. Why don't I follow you there?"

"All right."

Dan drove the truck at demonic speed half a mile down the highway, then swerved onto a logging road marked with a sign too small for me to read. We stayed on that road for a couple of miles, then took a gravel road, which forked and forked again. I was too busy trying to follow to look at my map, but I didn't think this road would be on it anyway. Finally we bumped and jounced for half an hour up a rutted, unlabeled dirt track to a squalid shack that had to be Dan's house.

As Dan got out of his truck I stared, appalled, at the house: a rectangular box not much bigger than the trailer I'd shared with two other grad students on my first trip to Borneo. The roof was rusty corrugated metal, and the walls were covered with metal printing plates from old newspapers. There was one window and one door, both with dented aluminum frames, and greasy smoke curled from a blackened chimney pipe. It was an affront to the majestic Douglas firs and western hemlocks at whose feet it squatted. "It's not much to look at," Dan said over his shoulder, "but I call it home."

There were several smaller buildings nearby. Nailed to the wall of one of them, head down, was the skin of a black bear. It was half rotted; flies and wasps buzzed around the lolling head.

"So what is it you do here?" I asked, trying to keep the disgust out of my voice.

"Hunt and trap, mostly. For cash I do a little metal work. Hinges, gates, that sort of thing. I have a forge." He gestured to one of the outbuildings.

"Well. That's very interesting. Now, where's this garbage heap?"

The chain-link fence surrounding the heap was rusted and battered, looking in several places as though it had been kicked almost through from the inside. Garbage was scattered all around the enclosure, and to a lesser extent outside it as well. Several crows took flight as we approached.

The gate had a simple catch, closed with a scarred padlock. "I had to lock it to keep the critter out," Dan said.

I examined the catch more closely. It was not something a bear could open; a raccoon might manage it, but it was too high off the ground. "You say the creature opened this gate more than once?"

"Yeah. It's been going on for weeks."

"There's no chance you left it open by accident?"

Dan's eyes narrowed. "What kind of idiot do you think I am?"

"Sorry," I said. "Would you please open the gate?" Dan pulled a loose bundle of keys from his pocket, opened the lock. I stooped and examined the soft ground near the gate, both inside and out of the enclosure. The area was pretty severely trampled, but there were some thirty-centimeter prints I couldn't identify—narrow in the tarsal area and broad in the phalangeal. And a small pile of droppings, fairly fresh.

"You're a hunter, you say, Dan? What do you make of that?"

"It's not deer scat, that's for sure. Too big for cougar, and bear don't stink like that."

"Indeed." I probed the droppings with a stick. Seeds indicated a diet of berries, and there was a lot of other vegetable fiber, but no hair or other indication that meat was being eaten. And it certainly did stink. I sealed a sample into a plastic bag.

"So what is it, a gorilla?"

I sat back on my haunches. "Well, Dan, I've shoveled out a lot of gorilla enclosures, but I've never seen anything exactly like this. And it's unusual for herbivore feces to have this strong a smell." I stood up, tossing the stick onto the garbage heap. "Perhaps the animal is sick." I braced my

hands in the small of my back, stretched. There were no other signs immediately visible. "Let's take a walk around, see what else there is to see."

An hour and a half later, we sat in the dimness of Dan's shack, with Dan nursing a Pabst Blue Ribbon from his wheezing refrigerator. On the table between us sat a crudely made clay vase, glazed with childish splotches in green and blue, holding an incongruous spray of delicate pale pink starflowers. But I kept glancing at the wall behind him, where a shotgun and two rifles rested on pegs . . . clean, well oiled, and ready for immediate action.

"I have to tell you," I said, "I am not quite sure what we have here. It might be a gorilla, or possibly an orangutan, or it might be something else . . . something I'm not familiar with." I stared pensively out the window at my van. "I'm pretty sure it's a large primate of some sort. I'd like to call the county, get the local animal control people out here." I opened my briefcase, took out my cellphone and black book. As I looked up the number, I said, "The zoo will coordinate with them, of course, in case it's an endangered species."

"I don't think so," said Dan. I looked up just in time to see the heavy black iron skillet coming down on my head.

I groaned as I returned to consciousness, my head a throbbing mass of pain. I raised a hand to see if there was a lump, but it clinked to a stop after moving just a few inches. The other hand was also constrained.

Panic jolted me to full awareness. I was chained to Dan's sagging, metal-framed bed. Around my wrists were manacles, hammered from strap iron, with rusty padlocks thrust through crudely chiseled holes. My neck and feet were also constricted with rough-edged metal. There was no slack whatsoever in the wrist pieces; I would not be able to pull my hand through without dislocating my thumb and losing a serious amount of flesh. I could move my head and my hands around a little, but my feet were firmly chained to the footboard.

"Welcome back," Dan said. He was sitting in the kitchen, just a few feet away. He was wearing a sleeveless undershirt that had once been white, and holding a rifle across his knees. A pistol was holstered on his thigh. The light slanted in from the window at a low angle, but I couldn't tell if it was morning or evening. The vase on the table now held showy white serviceberry blossoms.

"Dan," I tried to say, but my throat was dry and it came out as a croak. I swallowed, tried again. "Dan, what do you think you're doing?"

"Here's the way I see it. One," he said, holding up one finger, keeping the other hand on the rifle, "this is the Pacific Northwest, home of Bigfoot. Two, a large critter running around loose. Three, a smart guy from the zoo says it's, uh, a large primate of an unknown species."

"Dan, I didn't . . ."

"Shut up!" he shouted, baring his teeth. "I'm not finished. Four, this same smart guy has a truck full of equipment for catching gorillas, and he knows how to use it. Five, whoever brings in the first Bigfoot, dead or alive, is gonna be a millionaire. Now what does that all add up to?"

"Nothing!" I wailed. "Bigfoot's a myth!"

In one motion Dan set the rifle aside, drew the pistol from its holster, and smacked me across the face with its barrel. I was once hit by a cop with a truncheon during the WTO riots. This hurt worse.

"Listen here, smartass. This is a once-in-a-lifetime opportunity. You play along with me and we can both be millionaires. You fuck with me, and I still get the money, but you wind up dead." He sat down, holstering the pistol. "Your choice."

The silence that followed was broken only by the harsh uncaring buzz of flies orbiting over the dirty dishes in the sink.

Think. Think. I had to think my way out of this somehow. But the hammering of my heart and the pain in my head were pulling my brain in two.

"My co-worker Sonia knows where I went," I said, trying to keep my voice from quavering. "If I don't show up at the zoo tomorrow they'll send someone to Staircase to start asking questions."

Dan put his head to one side and regarded me with cold eyes. "You're right," he said at last, then got up and left the shack, leaving the rifle on his chair. I strained against my shackles for a long fruitless minute.

When Dan returned he held my cellphone in one hand and the pistol in the other. Without taking his eyes off me for more than a moment, he poked at the phone with his thumb, then grunted in satisfaction. He leaned over me and pressed the pistol's barrel to my temple, holding the phone to my other ear. "You tell them you ain't coming back for a while." He drew back the hammer, the sound transmitted through my bone sounding like the lock on the gates of Hell. "Make it convincing." He punched the Send button on the phone. I heard ringing.

"Woodland Park Zoo," came the voice on the other end. Aurora, the receptionist. I could see her in my mind's eye, sitting at her desk in the business office, but my real eyes were filled with the sight of Dan's stubbly, weathered face. His breath was sour and sulfurous, and my head was pinched tight between the phone and his pistol.

I had to swallow a couple of times before I could make any words come out. "Aurora," I said, "this is Ed. Tell . . . tell Sonia . . ." I couldn't think of anything to say. Dan bared his teeth and pushed the pistol hard against

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my head. All in a rush, I blurted out, "Tell her I found something interesting here and I won't be coming into the office for a while."

"All right," Aurora said. There was no trace of suspicion in her voice, damn her.

Dan hit the End button with his thumb and took both phone and pistol away. "Smart boy," he said. Then he left the shack again.

Jesus fucking Christ. What the Hell could I do now? I wanted to yell "Bigfoot's a hoax! A guy named Wallace admitted he faked all those footprints!" But I feared arguing with Dan would just get me killed. I had to play along, gain his trust, until I had a chance to escape. Survival of the fittest was the name of the game.

Dan came back, without my phone. The pistol was holstered, but I'd seen how quickly he could draw it.

I swallowed and worked my jaw. Christ, it hurt.

Enunciating slowly and carefully around the pain, I said, "What do you want me to do?"

What Dan wanted me to do is just what I would have done originally, except that I had to do it alone, manacled, and under armed guard. We walked the woods for miles around Dan's place, looking for primate sign: droppings, prints, hair, damaged plants, nests. We set traps, baited with fruit and primate pellets. We sat silently for hours, watching likely spots.

After the first day Dan removed my leg irons—he was tired of helping me up every time I fell, and they made too much noise—but the manacles and collar stayed on. "And don't try anything clever," he said. "I've got your phone and all the car keys hidden where you'll never find them. You're not getting out of here except on my terms."

I just rubbed my ankles and glowered at him. There *had* to be a way to outsmart this clod. But Dan held the keys, and the gun, and for all his ignorance he was cunning enough to never leave me unlocked and unwatched at the same time. Even my bathroom breaks were taken under the unwavering eye of the pistol: "Just do your business and get back to work."

After three more days—three days of canned corn for breakfast, baloney on white for lunch, venison fried in bear grease for dinner, and the rattle of chains for a "good night"—I was exhausted, burned out by constant fear as well as by the physical labor and lack of proper sleep. Whenever I closed my eyes I dreamed of Dan, holding the gun on me with his cold dead gaze, and jerked awake with a gasp. Every day I dragged myself out of bed could be the one he got too frustrated with the search and pulled the trigger.

And yet . . . and yet, despite the circumstances and the company, I felt curiously alive, because I found myself on the trail of a mystery like none I'd ever faced in my career.

There was definite evidence of a large primate in the vicinity. Possibly several such primates. And the signs were inconsistent with any known species. The prints suggested something with the mass and gait of a go-



rilla, but there were chewed stalks indicating something with the diet of a chimpanzee, and the droppings didn't look or smell like anything in any of the reference books in the van. All the evidence was fresh, too; it was clear that the creature or creatures had entered the area only recently and were still in the vicinity.

I found myself drawn, almost against my will, to the conclusion that there might really be a Bigfoot, and this might be it. It was not entirely implausible for a primate species to hide in dense forests, shrouded in myth, even in modern times. The orangutan, whose name means "man of the forest," was dismissed as a legend well into the eighteenth century; the mountain gorilla was not discovered by Western science until 1902, and the giant panda remained hidden until 1936.

In the last day or two I had begun to share my interpretation of the evidence and my theories with Dan. For one thing, he seemed to be saner, more tractable, when he thought the search was proceeding well. For another, I was trying to humanize myself in his eyes. And, finally, there was the attraction of human conversation; I discovered I would rather talk with an unlettered, sadistic hick than not talk at all.

Dan drained his beer and put the empty bottle back in his pack. "Well?" he said, wiping his mouth with the back of his hand, "what is it?"

I handed him the tuft of hair I'd been examining. It had a red-brown color like that of the half-decomposed pine log on which it had snagged. "It has the color of orangutan, but the texture is more like gorilla, and from this tuft I'd say it grows more thickly than either." I adjusted my collar so that it chafed on the other side. "That would be a good adaptation to a temperate climate."

"What's 'temperate'?"

"Mild weather. Like here, not like Africa or Indonesia where gorillas and orangutans live."

"I knew it! So how long until we bag the critter?"

I sighed, counted to ten. "I don't know, Dan. I was in Indonesia for three weeks before I saw a wild orang, and that's an animal whose habitat and behaviors have been extensively studied. We knew where to look. In this case we're dealing with a creature of unknown habits. One that has eluded discovery for nearly a century, I might add. *If it exists.*"

"If?" A crease appeared between his eyebrows. "I thought you said . . ."

"I said it *would* be a good adaptation to a temperate climate. That's only one interpretation of this evidence." Dan's face soured as he listened, crumpling the tuft between his fingers. "I'm a primatologist, Dan; I did my field work in Africa and Asia. I'm not as familiar with Northwest species. This might even be red fox."

"Fox?" Dan bared his teeth. "You're a big-shot zoo scientist and you can't even tell the difference between fox fur and monkey?"

"Ape, not monkey," I corrected. "Monkeys have—"

"I don't want to hear it!" He pounded his chest with his left fist on each word; his right hand tightened on the stock of the rifle. "You keep throwing more and more words at me, like they mean something. I don't want words! I want *money!*"

I cringed, hunching my head into my shoulders and raising my hands in supplication. The chains on my wrists rattled. "Dan, good science takes time. You have to have patience."

Dan glared down at me, breath coming fast through his clenched teeth, one fist raised to strike. I hunched down still further, covering my head with my hands, but then he relented. "Aw, hell, I've been a hunter long enough to know about patience." He reached into his pack. "Here, have a beer."

It might have been just Pabst Blue Ribbon, but it tasted like heaven.

Dan opened a beer of his own and sat down next to me on the damp earth. All around us firs and cedars rose into the moist, hazy air, their lichen-crusted trunks forming a natural cathedral. The lush undergrowth rustled with small living things. "Tell me something," he said after a while. "How is it you figure that all this life"—he gestured with the bottle—"got started from nothing?"

I considered my answer very carefully; I didn't know anything about Dan's religion, and I didn't want to antagonize him, but he knew me well enough by now that I wouldn't be able to get away with platitudes or generalities. So I decided to give him my favorite theory, straight. "Life is starting all the time," I said at last. "See that puddle there?" It was a muddy depression no different from hundreds of others nearby, and Dan grunted noncommittally. "Right at this moment, molecules could be combining in that puddle to form a compound that's capable of replicating itself. That's the beginning of life. But because there's so much life all around already, something's bound to eat it before it gets much farther." I took a swig of my beer. "The only difference in the beginning was that the first life didn't have any competition."

As I talked, Dan was peeling the label from his beer bottle with one grubby fingernail. He seemed to be considering the concept. "Competition," he said after a while. "That's the thing, isn't it. Everyone has to have more money, more women, more *stuff* than the next guy. Why don't they understand that all a man really needs is clean air, sturdy boots, and fresh flowers on his table? But in this world, without money you're nothing." He balled up the little strip of shiny paper and tossed it into the undergrowth. "You gotta have money to get any respect. Dignity. Y'know? That's why I gotta find him."

"Don't worry, Dan," I said, "we'll find him. We'll find Bigfoot."

I think I was trying to reassure myself as much as him.

I awoke in the night, as I often did. Dan snored in his sleeping bag on the kitchen floor, the rifle nearby.

There was a painful itch on my right arm, just below the wrist. It wasn't just the usual discomfort of the manacles. I stared at the itchy spot and saw a small, dark lump. A flea, or possibly a tick.

I stood the itch as long as I could. Finally I had to do something about it. I strained my head and my hand, the collar and the manacle biting painfully into my skin, until I could seize the parasite between my teeth. I bit down with a crunch, tasting my own blood.

After that I fell back, sobbing. As quietly as I could.

\* \* \*

On day six, I found a deer trail that the creatures seemed to be using with some frequency. We constructed a blind at a clearing along the trail, and stocked it with supplies to last a couple of days. Now we waited. I suspected the creatures were crepuscular—active at dawn and dusk—but wanted to keep a twenty-four-hour watch to cover all bases. Dan and I slept in alternation; I was chained to a stake by one ankle, the chain short enough that I couldn't reach Dan while he slept.

At dawn on day eight, I shifted on the log I was using as a chair and peered out of the blind. Dan snored quietly behind me; I hoped the sound would not be audible from too far away.

It was going to be a clear day. The rising sun slanted through the trees and raised streamers of mist from the undergrowth. Trillium flowers were just beginning to open for the day, and the tight-curved foliage of fiddlehead ferns glowed green in the early morning light.

I heard a sound. A lip-smacking noise. Then a slight rustling of undergrowth.

I held my breath.

A creature emerged into the clearing, moving slowly, with the sinuous grace of modern dance. It had the reddish color of an orangutan, but it was not an orangutan. The pelt was much thicker than an orangutan's sparse coat, and shorter; the skin beneath was black, not an orangutan's sandy gray.

I had never seen anything like it.

I wished fervently for a video recorder, a camera, even pencil and paper . . . but all I had was my eyes, my ears, and my brain. I tried to drink in all the details.

The creature's head was big-jawed and angular; there was some evidence of a sagittal crest. Its ears were small, smaller than human—suggesting that it did not use sound for communication—but it had prominent earlobes like the large-eared chimpanzee. The thin lips were closed, allowing no glimpses of dentition. And the eyes . . . the eyes were large, brown, and somehow sad.

Like a gorilla, it appeared to be built for quadrupedal locomotion rather than brachiation. This would be consistent with its mass, which I estimated at fifty kilos—too heavy for swinging from branches. As it walked, it moved only one limb at a time, a cautious gait that made almost no sound. The hands were held in fists, more like the orangutan than the gorilla's knuckle-walk. I peered hard, trying to see if it exhibited dermatoglyphs—fingerprints—on the outer walking surface of the hand.

The feet were not big. They were consistent with the prints I had found, about thirty centimeters long with barely prehensile toes: further evidence that this species did not brachiate. Though the feet did not resemble the supposed Bigfoot print casts I had seen, another aspect of the Bigfoot legend appeared to be true: the creature had a pungent odor, a combination of skunk and garbage, which punished my nose even from a distance of fifteen meters.

Now a second creature emerged from the forest, bars of sunlight sliding along its flanks as it moved. This one was larger—maybe seventy kilos—with peculiar flarings of tissue above its eyes and a prominent throat

pouch. A male? Then came three more like the first, but smaller; females, presumably. One of them was walking on three limbs, clutching an infant to its breast with the remaining arm. Frustratingly, the older creature's head and shoulder hid most of the infant from my view.

By now the first creature had seated itself, a hairy Buddha. The largest one, the male, flowed up onto a fallen log and probed it with a stick, displaying an almost scientific curiosity. Looking for ants? One of the smaller females settled down and began to tear off the tender heads of fiddle-head ferns, stuffing them one by one into her champing jaws. The other two females sat together; the one with the infant began to groom it, while the second female groomed the first.

"Beautiful," I breathed.

And then, all at once . . .

The sound of a rifle, apocalyptically loud in the enclosed space—

A splash of red on the alpha female's chest—

The other creatures slipping away into the forest like a dream being forgotten—

Dan's face clenched in concentration above the rifle stock.

"You bastard!" I shouted, suffused with anger, beyond care for my own life. I thought I'd convinced him to use the tranquilizer gun.

"Couldn't let him get away," he said, swinging his rifle to target the retreating male. He cursed as the big male vanished behind a tree, and moved to one side for a better shot.

But in his eagerness to bag the male, he made a mistake: he stepped inside the circle of my chain. With a wordless shriek I jumped him from behind, pulling my manacles across his throat. We fell together to the damp, loamy earth, but Dan held onto the rifle.

The coarse metal of the manacles bit into my wrists as we struggled, tumbling over and over in the mud. I pulled with desperate strength, grinding the chain against Dan's neck; he gurgled harshly as he tried to reverse the rifle. Then he gave up on that tactic and tried to hit me with the stock instead. But by now I was on top, my knee between his shoulder blades, my ankle chain wrapped around both of his legs—he couldn't get a good angle with the rifle, but didn't want to let go of it either. Grimly I kept the pressure up, cutting off his air, remembering the structures of the primate trachea. His struggles weakened, becoming sporadic and finally halting. But I didn't let up until I was sure he was unconscious.

Gasping for breath, covered with mud, and bleeding from the wrists and neck where the manacles and collar had lacerated my skin, my first concern was the female Dan had shot. I untangled myself from Dan and crept out to the limit of my ankle chain.

Too late. There was no pulse.

But as I felt her chest I noticed something anomalous tangled in the long hair under her breasts.

It was a kind of pouch, or sack, the size of my two fists. Crudely woven from strips of bark, and attached to the female's belly by cords braided right into her hair. There were some hard lumps inside it.

I teased the sack open. It contained a stick, one end stripped of bark and ground to a point. Several splinters of volcanic rock, each with a

shiny, almost serrated edge. Braided cords of vegetable fiber. And a scratched fragment of something that might be flint.

Flint.

A firestarter?

I couldn't be sure.

"Sweet Jesus," I said aloud.

Trembling from more than just exhaustion and terror, I collapsed to the ground next to the cooling body.

Bigfoot. A tool-using primate. Maybe even a fire-user.

Dan groaned. He'd be conscious soon if he wasn't already. I scrambled back to him and pulled the rifle out of his reach.

But as I felt the rifle's hot metal I paused, and thought about the origins of life.

Dan coughed and started to sit up.

And I shot him in the head.

Hampered with the manacles as I was, it took me the rest of the day to drag the female deep into the forest and bury her, then nearly another full day to find my phone and the keys. I yelped with joy as I pulled the phone from its hiding place under the cover of Dan's water pump.

But before I called anyone I thought . . . was I doing the right thing? Burying the greatest primatological discovery in a hundred years?

I thought again about the origins of life. How new life, the great self-organizing principle, might constantly be arising spontaneously, but was always being destroyed by other life, life that had the advantage only by virtue of having arrived on the scene first.

What if that new life could somehow be protected, hidden away from the competition, until it could establish itself?

What if, given the chance, it might turn out *better*?

If word got out, this forest would soon be swarming with scientists and government officials. Well-meaning idiots like me, who'd "protect" the species into near-extinction like we had the mountain gorilla and the Sumatran orangutan.

Bigfoot had managed to stay hidden for thousands of years without any help.

What had we accomplished during that time?

I shook my head while my opposable thumb picked out the digits 9-1-1. ○

## THE TWO FRIENDS —for Alice

The two friends considered  
themselves to be human.  
Intellectually they understood  
that that  
was not the case. They were human

only in the way  
Mafia dons  
are Catholic.  
But don't call it pretending.  
Why should a concept like  
humanity be limited to a few  
lucky souls who just  
happen to have noses?  
In fact, the two friends  
did have noses, and they would bleed  
if you pricked them.  
Some say a sense of humor  
is the defining characteristic  
of a human being. Maybe so,  
maybe not. The two friends  
shared a sense  
of elevated well-being  
when something exploded or fell  
down the stairs, but does that constitute  
a sense of humor? Another theory  
has it that an opposable thumb  
is the main criterion  
separating man from beast.  
But what kind of word is beast!  
Why should thumbs  
be put on a pedestal?  
Humans have thumbs, to be sure,  
but can they fly? Of course,  
the two friends couldn't fly  
either, but you see the point.  
The essence of humanity,  
its *sine qua non*, so to speak,  
is a capacity for friendship,  
and in that  
the two friends had no equal.  
It's sad to think  
they're dead now,  
but all of us will die  
some time or other.  
Did you know that?

—Tom Disch

# GODBURNED

Karen Jordan Allen

Karen Jordan Allen lives in Maine with her husband and daughter. Her fiction has appeared in such venues as *Black Gate* and *The First Heroes: New Tales of the Bronze Age*. She has worked as a Quaker pastor, an art school admissions office manager, a high school Spanish teacher, and a pianist. She has a master's degree in religion from Yale. At Yale, she tells us, she took an anthropology course on "Ancient Mexican Thought" with archaeologist Michael Coe. "This sparked my interest in the Aztecs. Some years later I spent a week in Mexico City, where I visited the sites mentioned in 'Godburned,' got a sunburn in the rain, and watched a young man put his hand on the Sun Stone." These experiences all provided inspiration for her first story for *Asimov's*.

**S**houts and triumphant howls. Woody thumps, as if clubs struck trees. More shouts, the low and heavy rumble of many feet pounding the earth.

Pearl tried to push herself up, but a large wooden disk strapped to one arm impeded her. She fell back to the ground and tried to think.

Was this it? This noisy place?

She hadn't expected to be conscious of anything. At most, a bright light, a soundless void. Never had she dreamed it would be like this—raucous, dusty, dimly lit. Perhaps she had been wrong not to believe in hell.

She pushed herself up again with her free arm. A coarse grit shifted under her fingers and dug into her knees.

Must be the medication, she thought. Goddamned stuff. I told them not to give me any more. I told them to let me die.

A thin light shone, too pale to permit her to distinguish colors. Gray earth, gray skin, gray round object bound to her left arm. No, this couldn't possibly be it. Could it?

Pearl squinted into the crooked hotel-room mirror and winced. Pink—God, had her face ever been such a flaming pink? Or she so stupid? Yes, clouds had blanketed the sky. Yes, rain had spit on her while she stood atop the Pyramid of the Sun. But she was in Mexico, in the tropics, for



pity's sake. She should have known better than to leave her sunscreen in her room.

She parted her gray hair carefully to cover the painful scarlet strip on her scalp, and rubbed a little SPF-30 cream into the new white part and the roasted wrinkles around her eyes. *I looked like a goddamned steamed crab*, she thought. She turned from the mirror in disgust. Not that she really minded about her looks. She glanced down at her travel-worn sandals and the ugly crossed toes that protruded from them. It had been a long time since she'd cared much about her appearance. But being thought stupid, even by Mexicans she would never see again—that would rankle. *Gringa estúpida*, they would think. *Gringa idiota. Viejita gringa idiota.*

But she had no time to waste anticipating insults on this, her last full day in Mexico City, with the Great Temple of the Aztecs and the anthropology museum yet to visit. They were the heart of her trip, her reasons for coming, and she was annoyed with herself for leaving them for last. Of course there had been distractions: the shrine of Guadalupe, the Frida Kahlo museum, the markets, the pyramids. She had even visited the great central plaza, the Zócalo, to see the cathedral and the National Palace, right around the corner from the Temple. Why had she neglected the Temple itself? Was she afraid of being disappointed? Or just saving the best for last?

*Oh, don't kid yourself, Pearl*, she scolded. *You just don't like being reminded of all that death.* She had read most of the *Florentine Codex* and knew all about Aztec sacrificial death: the cutting of hearts, the flaying of skins, even the killing of children—

She shook herself, plopped her faded canvas tote-bag onto the bed, and checked her day's supplies. A bottle of water. Two juice boxes. Granola bars, raisins, a stale peanut-butter-and-jelly sandwich, a roll she had risked buying at a bakery. Surely Moctezuma could not exact revenge with a roll. She had wondered, when she opened her suitcase full of food and drink in customs, what the young man there would think. But he had gazed on the contents only briefly, his face expressionless.

"I suppose I'm being silly," she said out loud. And in her mind she could hear Burney say, *Silly woman*, his imagined voice so clear it sent a pang through her heart. Poor Burney, Mexico had not been kind to him on their honeymoon here, years ago. They had both been sick, but he had suffered more than she. A week together in a Mexican hotel little better than this, taking turns in the bathroom—it hadn't been much of a start for a marriage.

*Got sick a few days ago*, he had written from Korea, not long before he was killed. *Stomach bug. Pretty bad, but Mexico was worse.*

She inspected the roll for dirt and insect parts, and returned it to her bag. She wished she hadn't taken half a century to come back to Mexico. After the disastrous honeymoon, she had vowed to return to see everything she had missed, everything she had longed to see since studying Spanish in college with the young and dashing Señor Rueda—*Raúl Moctezuma Rueda Tinoco*. She whispered his name and smiled, remembering his sculpted chin, his outstretched hand, his eagle's gaze that searched the air as he shared the words of Nezahualcoyotl, the poet-king of Texcoco:

*Cuix oc nelli nemohua in tlalticpac?  
An nochipa tlalticpac  
Zan achica ye nican.*

Perhaps we truly live on the earth?  
Not on earth forever,  
Just for a moment here.

Then Señor Rueda had lowered his arm, leaned on Pearl's desk, and looked into her eyes. "I once recited this poem with my hand on the Sun Stone," he said quietly. "It is a very special thing, to touch the Sun Stone."

From that moment Pearl had longed to visit Mexico. Señor Rueda lent her a book of Aztec poetry, and she read it aloud, over and over, even stumbled through the original Nahuatl. Then he gave her a history of the Aztecs and a travel book, and she imagined herself strolling the streets of Texcoco or Tenochtitlan, bargaining in the plazas, approaching the Sun Stone with her hand outstretched.

But she could not possibly have imagined being here today, seventy-three and retired, her life largely behind her.

Retired. Re-tired—tired again. What an awful, dull word. She didn't want to be retired. She preferred the Spanish word, *jubilado*, which looked quite jolly. "Jubilant," she always thought. That was what she wanted to be. The jubilant retiree.

Maybe she should join the Peace Corps. Could the Peace Corps use an old but jubilant school librarian?

She grunted. She could just see herself trotting through the jungle with her suitcases of granola bars and juice boxes.

Now, what had she been doing? She scanned the hotel room, frowning. Ah! Her bag. But as she reached for it, the floor shifted under her feet. She grabbed the bed's footboard. The light bulb overhead swung gently, as if someone had breathed on it.

The floor steadied. A tremor, that was all.

Pearl breathed deeply to calm her thudding heart. In old Tenochtitlan, she had read, the air echoed with whoops as those who felt a tremor warned neighbors who might not have noticed. Then parents lifted their children by the neck so the earthquake would not stunt their growth, and everyone sprinkled their faces and their belongings with water.

Pearl stifled an impulse to rush to the bathroom and splash her face. She zipped her bag, adjusted her voluminous denim skirt, and checked to make sure the pouch she had pinned inside was invisible under the folds. Then she squared her shoulders, opened the door, and found herself nose-to-nose with Sofia, the plump-faced maid who cleaned her room each day.

The young woman's eyes widened. Pearl detected a flicker of shock, then amusement, and her sunburned cheeks grew even hotter.

"*Buenos días, Sofía,*" she said, trying to sound nonchalant.

The young woman inclined her head. "*Buenos días, señora.*"

"*¿Cómo están las niñas?*" Pearl asked. Sofia had brought her two little girls to the hotel one day, and Pearl had played with them while their mother cleaned the room.

*"Muy bien, gracias, señora."* Sofia beamed. *"Hablan mucho de la muy amable abuela norteamericana."*

The very kind American grandmother. Pearl smiled, remembering how the girls had shrieked with laughter when she attempted to teach them the hokey-pokey. Her granddaughter, Jasmine, had loved the silly dance at their age. Now Jasmine was nearly grown and lived an ocean away in Botswana, but on their all-too-rare visits they still did the hokey-pokey together until they were breathless.

Pearl nodded to Sofia. *"Las niñas son preciosas."* Truly precious. She tried to edge past the young woman and into the hallway.

But Sofia raised a hand to her own cheek. *"Señora, ¿necesita algo?"*

*"No, gracias, muy amable."*

Sofia looked concerned. But she stepped back. *"Que lo pase bien, señora."* Have a good day.

Pearl escaped down the hallway to the creaky elevator.

Outside the hotel, high gray clouds arched across the sky, masking the perilous Mexican sun. On the sidewalks, vendors set up tables, or arranged shoes and cell phones on blankets. Intrepid children rushed into traffic at stoplights to hawk snacks. On the corner, a woman tempted passersby with a glass of fresh orange juice, a just-peeled mango. Pearl's mouth watered. One more day of bottled water and juice boxes, she told herself, just one more day.

Her legs ached from climbing the pyramids, but she walked briskly, to fend off pickpockets—across the busy Paseo de la Reforma, through the Parque Alameda Central, past the Palacio de Bellas Artes where she had seen the Ballet Folklórico. She slowed as she passed the elegantly tiled exterior of a restaurant. She was so tired of granola bars, and she hadn't had salad or vegetables in a week. Maybe she would take a chance and eat here tonight.

She shifted her bag to ease the knot of pain in her shoulder and walked on.

Finally the great expanse of the Zócalo, the city's main plaza, opened before her. The National Cathedral rose at her left, the National Palace stood guard across the plaza and to the right. Between them, a side street passed the remains of the once towering and bloody Temple.

Pearl walked into the plaza until she could glimpse the ruins. She stopped and stared. Chills pulsed through her. The Templo Mayor, center of the Aztec universe. The Spaniards had leveled most of it, and what was left had lain buried for centuries. Then not even thirty years ago, electric company workers uncovered an enormous stone relief of a dismembered Aztec goddess, and the excavation of the Temple began.

Pearl remembered her excitement when she had learned of the discovery. She had pulled out her old class notes, pored over museum guides, and read rare books that she could get only through interlibrary loan. The artwork, the design, the scale of the Temple fascinated her. But no matter how much she read, the sacrifices continued to distress her. She knew the reasons, the myths, the stories. But they did nothing to dispel the deep disturbance in her heart: Why did so many die here? Especially the children?

Something tugged at her skirt—she looked down at a tiny round-faced boy, his cheeks gray with dirt. Five fat fingers reached toward her, and his gaze fixed on her face as if she were a saint. Pearl caught her breath, barely stopped herself from patting his head, caressing his hair. His hand stretched insistently, his face shone.

She dug into her purse and found a few coins and the roll. She bent and put the coins into his palm.

His fingers closed over them, barely large enough to hold them all. The other hand snatched the roll.

She knelt, and he took a step back.

“¿Cómo te llamas?” she asked.

His mouth made a little round *o*. She repeated the question.

“*Rubén*,” he whispered. A smile lit his face. Then he ducked his head and ran. She glimpsed a double cowlick of black hair as he darted away. A double cowlick, just like her son, Philip. She knew what that had meant to the Aztecs: children with double cowlicks had been sacrificed to the god Tlaloc to bring rain.

Her imagination obliged her with the sudden vision of a group of weeping children stumbling toward their deaths—no, they had ridden singly on litters, she reminded herself, trying to turn the vision off as if it were a disagreeable video.

But the unwanted images haunted her as she strode briskly toward the Temple. Children, bought from their mothers, doomed by double cowlicks or unfortunate birth signs. The more they cried, the more rain would fall.

She shook her head. The adults, the god-impersonators and warriors, all believed—presumably—that the gods required their blood. Perhaps they even welcomed a sacred manner of death.

But the children—what could they possibly have understood? And the poor mothers. How had they borne seeing their children led off to die? From the moment she had held the already fatherless Philip in her arms, she had known that she would defend him with her life. Surely Aztec mothers had felt no differently.

At the gate into the Temple’s archaeological zone, the woman who took her entry fee offered her a guided tour in her choice of languages. Pearl declined. No living person could answer the questions that mattered to her now. She stepped onto the narrow pathway that led through the ruins, walked slowly, and let the questions come: Whose hands had cut those black and red stones? Whose had mortared them into place? Had they been proud of their work? And those snake heads that now eyed the cathedral—what sculptor had carved them? Who had painted them? Had the artists seen their work spattered with blood when those who had given their hearts to the gods rolled from the altar to the bottom of the steps?

Pearl shook the image from her mind, turned a corner, and came upon a tour group gazing earnestly into the depths of the Temple. Two shrines rested there, open to the air after centuries in darkness. Under them, she knew, lay two more, still older, and still unexcavated. The original Temple had been enlarged six times, with each successive Temple built on top of the older ones. Now only these early shrines survived.

Pearl looked into the double temple’s heart. On the left, a reclining fig-

ure with lifted head, a chacmool, stared into the sky with white-painted eyes. His reddened hands still clutched the carved vessel that had received hearts and blood to nourish the rain god, Tlaloc. On the right, a rectangular chunk of stone marked the spot where priests had split human chests for Huitzilopochtli, Hummingbird-on-the-Left, mighty god of war and manifestation of the sun. No statue of Huitzilopochtli had survived the Conquest, Pearl had read, though some might lie hidden still in caves, safe from European invaders.

Or Euro-American tourists.

She turned from the unwavering gaze of the chacmool and studied the tour group. They ranged from toddlers to old men, not a blonde head among them. The young men in front leaned against the rail as if their old empire pulled at them from the past.

How different for them, Pearl thought. To be able to say, my ancestors did this. My ancestors killed here—and died here. My ancestors built Tenochtitlan and conquered the Valley and met Cortés.

Pearl swallowed, her mouth suddenly dry. They had every right to stand here. But what right had she, the child of invaders, to gape at the remains of Tlaloc and Huitzilopochtli as if they were broken toys?

A girl of six or so glanced at her, clapped a hand over her mouth, and buried her face in her mother's skirt. Pearl grimaced and turned away. The sunburn must be Huitzilopochtli's revenge, she decided, his and Tlaloc's. Tlaloc sent rain so that unwary visitors forgot their sunscreen, then Huitzilopochtli commanded the sun to scorch their faces through the clouds.

She leaned toward the double shrine.

"Okay, you got me," she whispered. The chacmool did not respond. But a cloud of butterflies danced through her line of sight and disappeared behind the stones.

She did not remember until she stood in the adjacent museum that dead warriors and sacrificial victims were believed to turn into butterflies and hummingbirds after bearing the sun on its rounds for four years. Was that why butterflies flitted about the old temple complex?

Pearl impatiently dismissed the thought. Turning to the display cases, she moved from artifact to artifact, reading all the labels like a good librarian. But when her stomach began to rumble and her feet to ache, she went back outside, found a seat on a stone wall, and pulled out her sandwich. A gang of children wandered past, begging, and she gave them all her granola bars.

Yet even as life moved around her, she thought only of death—the flowery death, the Aztecs had called it. Did consciousness end abruptly, she wondered, with the knife thrust into the chest, or did the victims watch the priests lift up their beating hearts? Did they feel their bodies begin the long roll down the Temple steps? Perhaps the old men had sat here, where she now sat, waiting to carry the dead away, dismember them, and distribute them for ritual meals.

She looked at her sandwich, suddenly not the least bit hungry.

"Mrs. Richards?"

Pearl jumped.

A paunchy man in a white shirt and straw hat, unmistakably American, leaned toward her and held out his hand. "Joe Werner. The bus to the pyramids?"

She shook his hand. "Yes, of course." Now she remembered—his thick wrists, the enormous black opal on his ring, the way he had overflowed his half of the bus seat. They hadn't talked much, and she had quickly outdistanced him and his wife at the ruins. Last she'd seen him, he'd been surrounded by locals trying to sell him ceramic whistles and "authentic" artifacts.

Pearl hoped he would just say something polite and move on. But he sank onto the wall next to her and sat panting. His shirt was drenched from his underarms to his waist. She noted with satisfaction that his nose was bright red. So she wasn't the only one who'd forgotten the sunscreen.

He smiled at her. "Sun got you, too."

She winced. "Unfortunately."

"That your lunch?"

They both looked at Pearl's flattened peanut-butter-and-jelly sandwich. For once Pearl was glad for her sunburn; it disguised a blush handily. "I was sick last time I was in Mexico," she said. "Really sick. So this time I brought my own food."

"You just got to know where to eat," Joe said. "The best hotels. Everything cooked. No ice. Never had a problem."

"Good for you. *E. coli*'s a nasty bug."

Joe took off his hat and rubbed what was left of his white hair. "Yup. Plenty of *E. coli* in Korea. And worse. But I was young then. Gotta be more careful these days."

Korea. So he'd fought there, like Burney. Pearl glanced away, ashamed now that she had wished herself free of him. She suppressed an impulse to ask if he had known a Burney Richards. What were the chances? Thousands had fought in Korea. But she smiled, determined to be friendly.

"Is your wife with you?" she asked.

Joe grunted and nodded toward some stalls. "Over there. Loves to bargain. What she came for." He shrugged. "I came for this." He gazed across the Temple ruins, his eyes narrowed and focused, as if he were looking for something.

Pearl studied him, as he studied the ruins. "You came to see the Temple?"

Joe glanced at her sideways. His mouth spread in a sheepish smile. "Yup. Boyhood dreams and all that. Always wanted to be an archaeologist. Saw those Indiana Jones movies a hundred times. But it was the Aztecs I loved. Or whatever they called themselves."

"Mexico," Pearl said, pronouncing the *x* as a soft *sh*, the way Señor Rueda had taught her.

"That's it. Mexico. I guess you've done some reading."

Pearl nodded. "I had a Spanish professor who talked about his Aztec—*Mexica*—ancestors. He loaned me books, taught me a little Nahuatl. So I always wanted to come to Mexico. But the first time, well—" She shrugged and grimaced. "After I got sick, I hardly made it out of the hotel. But when I learned they'd found the Temple, I knew I'd have to see it."

Joe grinned. "Me, too. When I was a kid, I read whatever I could get



hold of. Wasn't much. Some great books were getting published just when I got drafted. The ones that Spanish priest wrote."

"The *Florentine Codex*?" Pearl couldn't believe that Joe had heard of it.

"Yup. Read the first volume. Left for the Army." Joe fanned his face with his hat.

Pearl tried to imagine him as a retired archaeologist, and failed. "So what happened?"

He leaned forward, propped his arms on his knees. "Don't know. Life, I guess." He sighed. "Or death. Can't avoid it with the Aztecs. Saw way too much death in Korea. Didn't want to read about it. And she—" He glanced toward the stalls. "She was ready to get married. A normal life. After the war, that sounded good. Real good."

Pearl found herself gazing at his wedding ring. Plain gold, the sheen softened by wear and age.

"Are you sorry?" she asked.

Joe put his hands on the wall and stretched out his legs, lifting the tips of his dirty white walking shoes. "Nope. Not sorry. I've had a good life. But—wistful sometimes." He nodded. "That's it. Wistful."

Pearl struggled to apply the soft, fragile word to the large sweaty man beside her.

"Can't change anything now." Joe gestured toward the Temple. "You been through?"

Pearl nodded.

"Amazing, huh? The wife asks what I see in them. The Aztecs. I tell her, best damn poets I ever read. But when I looked at that chacmool. Imagined the hearts in its bowl—" He shook his head as if trying to clear his brain. "Maybe it's impossible. Understanding them, I mean. But I try."

"So do I," Pearl said softly.

"No blood, no world. That's what they thought, I guess." Joe sat very still. His voice dropped to an anguished whisper. "But how could they kill the kids?"

Pearl sat silent. She still had no words to bridge that gap between her and the people who had built the Temple. Perhaps there were none.

Joe sat up straight and put on his hat. Then he slapped his knees. "How about lunch? A real one. Our treat."

Pearl considered her stale sandwich. A good meal would be wonderful. And Joe had turned out to be much more interesting than she could have guessed. But she didn't need another distraction to keep her from the Sun Stone.

"That's very nice of you," she said. "But I'm kind of on a schedule. Last day here, things to see."

"You're sure?"

She nodded.

"Well, the wife's waving at me. Must need more money." Joe replaced his hat, pushed himself up from the wall. "Have a good trip home. Stay away from that *E. coli*."

Pearl smiled as she shook his hand. "Nice to see you again. Say hello to your wife for me."

Joe lumbered off toward the stalls. Pearl watched him join his wife. He



put a hand on her shoulder, and their straw hats touched as she pointed to something in a merchant's stall. A lump formed in Pearl's throat. The same scenario must have played out for centuries in this very place—the haggling between seller and buyer, man and woman, the exchange of merchandise for dollars, pesos, gold, cacao beans.

She sighed, bit into her sandwich, and chewed mechanically as she surveyed the ruins. What was it, she wondered, that pulled so many like her, like Joe, to the Temple? Did they really hope for some epiphany of understanding? Or were they no better than voyeuristic motorists gaping at a bloody traffic accident?

The peanut butter stuck in her throat and she coughed, then tossed the remainder of her sandwich toward a pigeon. Señor Rueda had spoken about Aztec human sacrifice in the very first class, astonishing her with his directness. *Your ancestors, too, sacrificed human beings*, he had said. *Don't judge without trying first to understand*. She had found the latter good advice, and not only in dealing with the Aztecs. But what happened when one tried and tried to understand, and couldn't? Did that deny one forever the right to pass judgment?

She stood and brushed off her skirt, then gazed one last time across the ruins—broken stones and low tin roofs, where once had towered a magnificent structure higher than the cathedral. Little remained of the outermost walls of the Temple. But deep within, two shrines had been preserved and once more received visitors. Within them two others lay secret. On street corners, she heard men declaiming in Nahuatl. How much, after all, had the Spaniards destroyed, and how much lay underground like the oldest shrines, waiting?

*Pearl struggled to her feet. Heavy clothing made it hard for her to bend at the waist. She patted her stomach. What on earth was she wearing? A vest of some sort covered her chest and stomach, thick and stiff as cardboard, with the texture of heavily starched cotton. A long cloth was wrapped around her hips and tied in the front, the ends hanging to her knees. Her legs were bare. Simple sandals protected the soles of her feet.*

*The great rumbling noise grew nearer and louder. Pearl turned just as a dense crowd of running men overtook her. She raised the object on her arm to fend them off—a shield, she saw now, and the strange vest was padded body armor. Her strength surprised her, and she stared at her arm. The skin was smooth and taut, and revealed muscles she hadn't seen in years. She flexed the fingers on her free hand. Her arthritis was gone.*

*The men pushed her forward, shouted in her ears, shoved her with their shields. She pushed back with her new, young strength. The light brightened, and the shields flashed turquoise, mother-of-pearl, quetzal-feather green. The thumps that had puzzled her earlier were simply the shields colliding.*

*Pearl turned her head and craned her neck, looking for someone to talk to, someone to ask about this bizarre place. But the gray-featured warriors did not meet her eyes—not until her gaze fell upon a face that stunned her, eyes that looked into hers, narrowed, then brightened in recognition.*

*The man smiled.*

*"Señor Rueda?" she whispered.*

\* \* \*

As in most museums, books and souvenirs crowded the entrance to the Museo Nacional de Antropología, and the thing Pearl most wanted to see stood farthest away. Mexico had a long history—three miles of exhibits, the guidebook said—and most of it stood between her and the Sun Stone. She sighed. She could have spent her whole week here. Just as well that she had saved the museum for last.

Pearl shouldered her bag and trudged through centuries and cultures. In the Oaxaca gallery she paused to study some Zapotec deities: the Goddess of the Thirteen Serpents, hands crossed on her breast, gaze aimed piously skyward. A grimacing Old God. Xipe Totec, his face masked by a flayed skin. The Aztecs, she knew, had also worshipped Our Lord the Flayed One. Some had worn human skins for an entire month, until they stank like dogs.

Pearl's skin tingled with sympathetic pain. She hurried on.

Finally, in a darkened room, the illuminated ten-foot disk of the Sun Stone loomed before her, staring across a broad platform. She paused, feeling the need to mark the occasion—to touch holy water, genuflect, make an offering. After a moment she walked slowly to a convenient bench, sat down, and stowed her bag between her feet.

*I'm here. I made it, Señor Rueda.*

She took a deep breath and gazed into the face at the Stone's center. It was round and grim, compassionless, with a flint knife for a tongue, and flanked by clawed fists that clutched human hearts. Pearl's books had not agreed on the identity of the face. Perhaps it was the sun disk, perhaps the earth monster. But no one disputed the identity of the symbol in which the face rested: *ollin*, movement, a reminder that the present world, the fifth sun, would end in the shaking of the earth.

She studied the twenty signs that circled *ollin* and the face, trying to identify the sacred day-names, rabbit and dog and reed and death and the others. But age had softened the carvings and she could not match name and figure. She would have to look them up later, she supposed, to learn after the fact what she had seen. Perhaps life was the same way. Not until life was over—or nearly so—could one see it for what it was.

Weariness settled over her. She let her eyes close.

Hushed museum voices and the scuffle of slow footsteps soothed her. Her sore muscles relaxed and her mind calmed. Surely, she thought, the other visitors understood the great paradox of the Aztecs no better than she: how could so sophisticated a people, lovers of poetry and children, shed so much blood?

For they had not been barbarians. Barbarians could not have turned a swamp into a city, or created the Sun Stone. Barbarians would not have told their children: *Life is full of pain and suffering. But you are precious as turquoise stones and quetzal feathers. Live cleanly. Work hard. Avoid drunkenness and bad company. Be faithful to your spouse and respect your elders.* Parents of any age and place might offer such advice to their children.

But these parents had also drenched themselves in death—bloody, sharp-scented, sacrificial death.

Pearl shook her head. She knew the arguments for the ceremonies, the

justifications: that the Aztec rulers used their religion as an excuse to kill people, to gain power through terror; or, that the rulers and people alike were helpless victims of their imaginary but bloodthirsty gods.

No, Pearl thought. Surely there was something more. Something was missing from her understanding.

She studied the Stone as she pondered once again the myth that described the creation of the fifth sun. A pitiful, sore-covered god called Nanahuatzin threw himself into a fire at Teotihuacan, after all the other gods refused to immolate themselves. Nanahuatzin was transformed into the sun, but he hadn't enough strength to rise into the sky. He sat impotent on the horizon, until one by one the other gods sacrificed themselves. And not willingly, either—they whined and stalled and even tried to shoot down the newly born sun to avoid their fate. But only their sacrifice could set the sun in motion.

Pearl caught her breath. *The gods—even the gods had had no choice.* Was that the missing piece? Her own culture conceived of God as almighty, omnipotent, able to arrange the universe as he pleased. But in the world of the Aztecs, even the gods had to submit to the cosmic order, an order that required human death for its survival—a requirement not without logic, Pearl realized. Every day, her own survival depended on eating plants and animals that died to nourish her. She, like the gods, consumed the dead. What if the universe were a living thing, requiring similar nourishment, but on a much grander scale? What if it survived only on human blood and tears?

Pearl felt cold, right down to her bones. If the Aztecs had doubted, if they had even suspected themselves to have a choice, then they had committed the cruelest acts imaginable. But if they had truly believed, had *known*, that the cosmos needed their sacrifices, she could see in them only a tragic determination.

She closed her eyes once more, tried to imagine herself into that mythic world, to know the universe as a living being dependent on human blood for food, on children's tears for rain. She became dizzy with the effort, but all she sensed was a vast emptiness.

A low, resonant voice interrupted her musings. She opened her eyes and saw a young man standing on the platform with one hand on the Stone. His other hand held a small book, and he read aloud, his voice subdued but emphatic, his face intense. Pearl thought she recognized the sound of Nahuatl.

He snapped the book shut and vanished into the shadows without looking up. Pearl stared after him. So Señor Rueda had not been the only one to perform that strange ritual. What could it possibly mean?

Pearl scanned the galleries for anyone who might see her. But she found only glass cases and the blind eyes of stone gods. She was alone with the Sun Stone.

*To touch the Sun Stone is a special thing.*

She glanced around once more. She imagined her embarrassment should she be caught, a librarian of all people, breaking museum rules. Then she grabbed her purse, hurried across the floor, stepped onto the platform, and lifted her trembling hand to the Sun Stone.

The Stone was cool and rough, pitted with age. She let her fingertips explore the crevices, puzzle out a decorative shape as if reading Braille. The stone warmed under her hand, seemed to soften under her touch. She whispered: *Cuix oc nelli nemohua in tlalticpac?*

The world shuddered to a halt. All sound and movement stilled, as if the earth paused between breaths. Pearl tried to step away and couldn't. For a moment she panicked. Then her thoughts turned some strange corner in her mind. Pain lanced her heart, a desperate hunger filled her belly, and she knew, she felt with her whole body, the terrible dependence of the Aztec world on human ritual, the horrific cost of creation. She saw in her mind's eye the apocalypse that would descend if the sacrifices ended, the world shaken into dust by earthquakes. No choice. Truly, they had had no choice. She shook, then wept, and the gods wept with her.

Approaching voices startled her. The world seemed to take a breath, to resume its movement. She jerked her hand away, wiped her tears, stepped back from the Sun Stone. A Mexican family gathered to look at the Stone, four children with their mother and father. The adults were studying the guidebook, but the children stared at Pearl. She turned as casually as she could and pretended to look at another exhibit. When the family moved into another gallery, she fled the museum, unable to bear any longer the gaze of the Aztec gods.

Out in Chapultepec Park, well away from the museum, Pearl lowered herself onto an empty bench. *Stop trembling*, she told herself. *Your imagination, that's all it was. Your overly active imagination.*

But even her imagination wasn't usually that vivid. Had it been a dream, then? she wondered. Or even a hallucination? She was tired, that was obvious, too tired to think clearly, to trust her senses. *Something* had happened. But what?

She closed her eyes and let her thoughts approach the Stone again, trying to recover the experience, the way she could sometimes remember a dream if she sat very still. But as her mind brushed up against that terrible pain and hunger, a deep anguish awakened in her, and she groaned. Tears flowed from under her eyelids and poured down her cheeks. She wrapped her arms around herself, bit her lip, and tried to hold the tears back. So many deaths. How had one people willingly caused—and borne—so many deaths?

"¿Señora?" Something soft touched her knee. Pearl opened her eyes and saw a small brown hand, dirty fingernails bitten to the quick. She looked up into a girl's enormous dark eyes. The child lifted her hand, as if to touch Pearl's face.

"¿Le duele tanto la cara?" she said in a piping voice. "¿O es que alguien se ha muerto?"

Pearl made herself smile. No, she told the girl, her face didn't hurt much, and no one had died. Then she added in English, mostly to herself, "I'm just an old woman poking about in things I shouldn't. I'll be fine."

The girl tilted her head. Pearl smiled again. The girl smiled back, then took off before Pearl could offer her anything. The loose soles of her sneakers slapped on the concrete as she ran.

Pearl felt an urge to call out, to stop her. But what would she say, what

would she do? She couldn't take the child home with her. And even if she could, she would leave many behind.

She thought of the Aztec children. They, at least, had been cherished, even—perhaps especially—those who had been sacrificed, for they gave their lives to ensure the survival of their people. These street children—who cherished them? Who told them that they were as precious as turquoise and quetzal feathers?

She sat for a moment to gather herself, feeling her helplessness in the face of so much need, so much pain past and present. Finally she took a bottle from her purse, poured some water into her palm, and splashed her face. For the first time since she'd arrived in Mexico, she felt every inch her age. Her feet hurt, her joints ached, and the wrinkles in her face burned. She should go back to her room, take a nap, have some dinner. In the morning she would board the plane and return to the twenty-first century and her little house in Ohio. Let someone else try to understand the Aztecs now, she thought. She had understood all she could bear.

Pearl pushed herself to her feet and wearily crossed the park. As she approached the Metro stop, yet another street child stepped into her path, hand outstretched. The boy was nearly as tall as she, dusty-faced, lean and wary.

*"Señora, por favor."*

Pearl reached into her purse and pulled out her last juice box. Then she thought better of it, and dug into her hidden skirt pocket, pulling out a few bills. They were more than she usually gave, but she held them out. *"Que Dios te bendiga,"* she said softly. God bless you.

The boy's eyes grew wide. He snatched the money and ran.

*Señor Rueda's smile broadened. He looked young, as young as when he had patiently taught Pearl the difference between ser and estar, to be and to be.*

*"One-culture," he said gently, as if correcting a slight pronunciation fault.*

*"What?"*

*He deflected one of the gray soldiers with his shield, and raised his voice. "Here we are known by the signs under which we were born. My birth sign is one-culture. Ce-cozcaquauhtli. A good sign, auguring long life."*

*"How old were you?" Pearl asked.*

*"Eighty-four."*

*"What happened?"*

*"Car accident. The sun was in my eyes." He nodded toward the ever-brightening dawn. Suddenly Pearl understood. Huitzilopochtli, Hummingbird-on-the-Left. The god had killed Señor Rueda, and her professor had passed into the afterworld of the sacrificed Aztec warrior.*

*And so, somehow, had she.*

It was deep winter, past Christmas, and the sunburn had long since faded when Pearl's hairdresser, Phyllis, gently parted her hair, rubbed her scalp lightly with a finger, frowned (as Pearl watched in the mirror), and said, "I don't remember this mole. It looks funny. Maybe you should have somebody look at it."

"It doesn't hurt," Pearl said.

"Sometimes they don't."

Then Pearl remembered Mexico, the sunburn, and the Sun Stone. Her stomach knotted, but she mustered a smile for Phyllis. "Thanks," she said. "I'll have it checked."

When she got home she used a hand mirror to peer at the top of her head. A bluish lesion spread across her part. She called Dr. Moulton and made an appointment. Then she turned on her computer to research her newest concern, reading long into the night.

"Hmph," was all Dr. Moulton said at first, when she finally sat before him in a tiny examination room that smelled of latex and disinfectant. Pearl rolled her eyes. Was he going to scold her now for bothering him with something not worth worrying about? But he dug into a drawer for a magnifying glass. She felt his beard against her hair as he leaned closer. Then, in a gentler voice, he said, "Yes, I think that should come off, and soon. I'm going to send you to a dermatologist. Dr. Anderson. He looks like a kid, but he's very good."

He startled her by patting her on the shoulder. So—it *was* something. But she had already guessed as much.

The following week Dr. Anderson removed the mole under local anesthetic. He did indeed look like a shiny-faced kid, a Little League coach rather than a doctor. Pearl calculated his age from the dates on his diplomas and concluded he was nearly young enough to be her grandson. He remained carefully professional throughout her appointment, refusing to speculate on whether the mole was malignant or benign, but assuring her that the lab work would be done as soon as possible. When the anesthetic wore off her scalp hurt like hell.

A few days after the excision he called her. Could she come in? That afternoon was fine.

When Pearl arrived he greeted her without smiling and led her into his office. She sat next to his desk in a soft, upholstered chair and waited. He opened her folder and studied the page on top. Pearl leaned forward a little, but he shut the folder before she could decipher any of the contents. He leaned back in his chair and folded his hands together.

*Poor thing*, Pearl thought. *He can't have had much practice telling people they may die.* She wanted to pat his arm. Instead, she lifted her chin. "Give it to me straight. How bad is it?"

"It's hard to say for sure," he replied cautiously. "The tumor was a malignant melanoma, yes."

"What kind of melanoma?"

His eyebrows drew together and he gave her a curious, doubting glance. "What *kind*?"

"Nodular? Superficial spreading? Lentigo maligna?"

"Oh. I see." He looked at the floor. She could almost hear him think, *Goddamned Internet*. But when he raised his eyes she saw a flicker of amusement as well as concern. "You've done some research," he said.

"I'm a librarian."

"Ah." He smiled then, a full, friendly smile, and Pearl found herself suddenly, irrationally angry with him for smiling. "My Aunt Sue is a librari-



an," he said. "She used to send me book reviews. Now she sends me website addresses. Lots of them." Then the smile vanished, replaced by a practiced, professional concern. "As long as it doesn't distress you too much, read what you like. But you know that some sources are more reliable than others."

"Of course." Pearl heard her own voice, curt and impatient, and knew for the first time how truly frightened she was. But she couldn't stop herself from going on. "What do you think? That I'm going to run off to Mexico for some so-called miracle cure? Not likely."

One corner of Dr. Anderson's mouth twitched. Pearl could not tell if he was amused or annoyed.

"If you are interested in alternative medicine," he said, "I might be able to suggest something that would complement the standard treatments. But it's far too early to—"

"I'm not interested." Pearl took a breath and lowered her voice to keep it from quavering. "Just tell me what I have. And how long."

The chair squeaked as Dr. Anderson leaned forward. "You have a nodular melanoma," he said.

"Invasive?"

"Pretty deep. I believe I got everything that was on your scalp, but we'll need to do a lymph node dissection."

"And if that's positive?"

"We'll consider that when we come to it."

"But don't nodular melanomas often metastasize early?"

He sighed, and Pearl prepared herself to reject the well-meant but false reassurance that was surely coming. But he just nodded.

The questions continued to spill out of her. "The prognosis for a melanoma on the scalp is poorer than for some other locations, right?"

"Sometimes. Scalp, hands, feet. Mucous membranes."

"So you're not optimistic?"

He rubbed his chin and stared intently at some point behind her. "It's far too early to say. I think metastasis is likely, at least to the lymph nodes. But only tests will determine that. Have you had any other symptoms? Weight loss? Balance problems? Headaches? Pain?"

"No."

Pearl could see that Dr. Anderson thought she had answered too quickly. But he pulled out a pad of paper and scribbled on it. "My receptionist will schedule your tests. And remember what I said about your reading. It's fine as long as you watch your sources and don't become distressed. But don't spend all your spare time on it."

"I won't," she said tartly. But she couldn't look him in the eye. Sometimes she had stayed online until three or four in the morning, her eyes so bleary she could hardly read. She promised herself she would do better.

So in the following days, she limited her computer time to a couple of hours in the evening, and tried to keep to her usual schedule—volunteering at the local library, teaching adults to read, finishing a quilt for her granddaughter Jasmine. But the tests and appointments loomed over everything: lymph node dissections, liver tests, a chest x-ray, and finally a scan of her brain.



She knew from her research that her prognosis worsened with each new test. But she also felt increasingly dissociated from the test results and images the doctors showed her as they explained what was wrong with her body. She felt fine, except for her sore scalp. Those pictures must belong to someone else. Surely.

Then the day came when no more tests were scheduled and she sat in the overstuffed chair again with Dr. Anderson beside her and dark pictures of her brain lying on his desk.

She gulped. Dr. Anderson took a breath, but she could not bear him to speak first.

"How long do I have?" she asked.

He paused, and she wanted to shake him. "The melanoma has spread to the brain," he said in his careful doctor's voice.

A chill washed over her, froze her to her chair. *Spread to the brain*. It was not a surprise—she had imagined this moment, even expected it. But she felt shocked and unprepared, as if she had awakened without warning in a different time, or on a different planet.

Her brain—the melanoma was in her brain.

*Goddamn it.*

She felt his hand on her arm, and jerked away. He leaned back. "It's inoperable, unfortunately," he continued. "There's not much chance of a cure. I'm—"

"I know that," Pearl snapped. She felt lightheaded, dizzy. "How long?" she repeated.

Dr. Anderson reached toward her again, then let his hand drop to his knee. She wished he would be rude, brusque, insensitive, so she could be angry instead of afraid. But his voice remained gentle. "A year at the outside, if radiation treatments are effective. More likely six months." He looked at her, his eyes steady and compassionate. "I'm sorry," he said.

But Pearl hardly heard him. She was having trouble breathing. She remembered something Philip had said when he was three. *All the air is out of my tummy*. Now her tummy was that empty.

"There are treatments that may give you more time," Dr. Anderson added.

She closed her eyes to shut out his face. *Treatments*—but for what? A few more weeks of misery? She had seen some of her friends go through that. No, damn it, she wouldn't. She sat up straight and looked at him.

He waited.

"I don't want any treatments," she said. "Just for pain, that's all. I've lived longer than most people on this planet hope to. If I'm going to die anyway, I don't want to stretch it out just to make somebody else feel better."

"It's certainly your choice," he said. "But take some time to think about it. We can do more than we used to. Maybe even a clinical trial—"

"No." She stood up, trembling right down to her fingertips. "No treatments. And no machines. Read my living will."

"I'm glad you have one," Dr. Anderson said quietly.

"I'm not stupid!" Pearl shook with fury. She needed to leave, to get out, before she burst into tears in front of this man who knew her brain better

than he knew her. She clutched her purse to her side and reached for the door. "I have to go now."

"Are you sure? You can stay for a few minutes. No hurry."

She closed her eyes, took a couple of breaths. She had to stay calm long enough to get out of the office. "No," she said steadily. "I have to go."

Dr. Anderson put his hand on her shoulder. This time she endured his touch, but she barely held back the tears. "All right," he said. "But call me if you have more symptoms, or if you change your mind about treatments. Or if you have any questions, any at all."

"I'm not going to call you. I'm going on a trip." Only as she spoke did she realize what she would do. "I'm going to Greece. And Botswana."

She left him standing in his office doorway, looking ten years older than when she had come in.

The moment she closed her car door, her composure shattered. She clung to the steering wheel and wept. So this was how it would end, seventy-four years of life, *good* life, struck down by a renegade mole on her scalp. How utterly trivial.

How was she going to tell Philip?

She knew immediately—she wouldn't. Not Philip, not anyone, not until she had to. Philip would insist on coming home, staying with her through every last minute, giving up the work he loved on the wildlife reserve in Botswana. No, she would not let him. She was his mother, and it was her privilege to protect him. He would be angry when he found out, but as long as she allowed him a good-bye, his anger would mend.

Not until that night when she lay in bed, staring into the darkness, did it occur to her that by telling no one she protected herself, too. If people knew she had a fatal disease, they would pity her, whisper about her, put on overly cheerful or kind faces.

How she would hate that.

She left for Greece the following week. She wore hats and scarves to cover the evidence of surgery, feeling quite stylish, and she told everyone in her tour group about the Spanish word, *jubilado*, that sounded so much nicer than "retired." They all laughed—only two were under sixty—and dubbed themselves "the jubilant retirees." E-mail and snail mail addresses were exchanged, and everyone promised to stay in touch.

But the last thing Pearl wanted was more people waiting for news about her illness. So she said good-bye warmly and discarded her address list before boarding the plane to Botswana, where she toured the wildlife reserve with Philip and his wife, and danced the hokey-pokey with Jasmine. She could almost pretend she was well.

But she knew the melanoma was growing, and would catch up to her in the end. Almost as soon as she returned home, she started having dizzy spells. She reviewed her will, sorted her belongings, and put off calling Philip as long as she could. If she could not die in her own time, she could at least die as much as possible on her own terms.

*"So what about you?" Señor Rueda asked. "How did you get to be here?"*

*"Melanoma. After a bad sunburn at Teotihuacan."*

*"Ah." His dark eyes bored into her. "And?"*

Suddenly Pearl knew what she had done. "I touched the Sun Stone. Because of you. You said you had touched it, and it was a special thing."

Señor Rueda laughed grimly. "Even I didn't know how special. I suppose that means you're my sacrificial captive. To us Mexica, that's like family."

The surrounding soldiers surged forward, carrying Pearl and Señor Rueda with them. She fought to stay near the professor. They ended up pinned back to back as the crowd cheered the waxing light.

"Is it like this every day?" she shouted.

"Every day," he replied.

"Don't we turn into butterflies or hummingbirds after four years?"

"So they say. I think I have two years left. One loses count."

Pearl didn't wonder at that. She was finding it hard to think in the din.

A passing soldier shouted, "Hail One-vulture!"

"Nine-serpent!" Señor Rueda shouted back. "A terrible sign," he explained to Pearl. "Nines are the worst."

"What about fours?" she asked. "I think my sign is four-movement. I tried to figure it out once. But I don't know if the calendar I was using was accurate."

He grabbed her by the shoulders. "Four-movement? Do you know what day that is?"

Pearl shook her head.

"It's the day-sign of the sun. The fifth sun." He paused. "Those born on that day are destined either to take captives or to be sacrificed."

Pearl grunted. "I guess we know what happened to me, don't we?" A loud cheer sounded. "So what happens now?" she asked.

"We carry the sun."

A blinding light burst upon them. Pearl raised her shield. A hole the size of an arrow's shaft let a few rays pass through. She drew the shield close and squinted through the hole. In the middle of the reddened sun-disk she made out a flickering face, traced in solar flares. The mouth gaped.

"Come!" shouted Señor Rueda. "It's time!" He broke into a run. Pearl followed him toward the dawn.

Ice melted slowly on Pearl's tongue. With great effort she swallowed the water that dribbled into her throat. How long would she be entangled with this failing, aching body? She struggled to pull her thoughts in from where they wandered, and found herself concentrating on her name. *Pearl*. But this flesh, this thing lying in a hospital bed was not her, not Pearl. Pearl roamed the Acropolis. Pearl raised a son, alone. Pearl traveled to Mexico and explored the Great Temple.

That Pearl would not have endured the way people whispered around her now. Her son, home with his family from Botswana, her daughter-in-law, her sister, and assorted in-laws of her sister whom she could no longer keep straight. Why couldn't they be quiet? She had enough trouble trying to think without having to filter out their babble. Especially now that the pain medication dulled her.

But not Jasmine. She silently exempted her granddaughter from the list of unwelcomes. Jasmine read books to her daily, for which Pearl

blessed her, even when she fell asleep or could not follow the story. The others acted as if her brain were already gone, which it wasn't, not quite. Not yet.

Ten months. She had beaten the melanoma for ten months, and she was proud of that. But she wouldn't want another ten months in this bed, even if she could have them.

Not that she expected much of death. She didn't expect to meet God, and she certainly didn't believe in heaven or hell.

But she did entertain a fantasy—something that sounded so silly out loud that she had never mentioned it except to Burney, who had smiled but hadn't laughed—that when she died, if she did not cease to be, she would at last learn everything she had always wondered about in life. Whether God existed was among the least interesting of questions. What she really wanted to know was whether conscious life existed elsewhere in the universe. What was written in the books that burned in Alexandria. How the Incas built Sacsahuaman. Who Tutankhamun's parents were.

What the sacrifices had really meant to the Aztecs.

Whether death would satisfy her curiosity, she would learn soon enough. She thought she was ready. But something still nagged at her, something she needed to do. Something she needed to tell Philip. What was it? Something—yes, something to do with the Aztecs, with her trip to Mexico.

She heard the door creak and let her eyelids open half way. Just a nurse. Good. Quick hands pushed back her hair, smoothed the sheet.

"Would you like more ice, Mrs. Richards?"

Pearl nodded. The nurse spooned crushed ice from the pitcher. Pearl closed her mouth over it and shut her eyes. Then she opened them again. She had remembered. She struggled to lift her hand.

"Nurse? Please?" The ice in her mouth made her garble the words.

The nurse leaned over her. "Do you need something, Mrs. Richards?"

She swallowed some of the ice. "Tell—Philip," she whispered. God, she hated this feeble voice. "Tell Philip. Don't touch it. The Sun Stone. In Mexico. The Sun Stone," she repeated.

"Tell Philip not to touch the Sun Stone," said the nurse. "Is that right?"

Pearl nodded. "They say it's special. A special thing. But don't touch it."

"I saw it myself once," the nurse said. "It is a special thing. But I didn't touch it."

Pearl lifted her hand and pointed. "Don't forget." Suddenly it seemed terribly important. The nurse said, "I'll remember," and gently pressed Pearl's hand back to the sheet. She left quietly in her soft white shoes.

Pearl let her head fall to the side, but the oxygen tube irritated her nose, so she turned back the other way. Her limbs felt heavy, and the sheets scratched like straw. She had never imagined that a time would come when she would not want to live. But she was so tired of dying, of the endless good-byes.

The slow click of the doorknob reminded her that others waited, too. *Quick*, she told herself, *now, before the sorrowing hordes return*. She let go of the bedsheets, let her chest sink and be still.

*Zan achica ye nican. Just for a moment here.  
She slid into darkness.*

*Pearl ran until the thick mass of bodies slowed and then stopped, like people in a theater converging on an exit. But this was no exit. She raised her shield and squinted at the sun. Its hungry face crept into the sky, supported by a writhing pillar that grew higher and higher as soldiers scaled their fellows to push the glowing disk toward its zenith.*

*Señor Rueda stepped onto a man's back and offered his hand. "Come with me. I'll show you how we lift the sun into the sky."*

*She hesitated. The mass of soldiers reminded her of insects crawling over one another. She shuddered.*

*"Hurry!" Señor Rueda reached for her.*

*She could not force her hand up to meet his. The image of the sun flared in her mind. Huitzilopochtli had killed her, and now he expected her to carry the sun? What about all the others who had died for the Aztec universe? The thousands of warriors? The slaves? The children with double cowlicks?*

*Señor Rueda grabbed her wrist. "Come! Now!"*

*From beyond the crowd, beyond the sun, beyond even the sky, a deep voice, vibrant like a string on a bass viol: "Four-movement! Help us."*

*The world stopped, held its breath, as it had when she'd touched the Sun Stone. Pain and hunger flooded her. She felt the Sun's weakness, its need for her. But she remembered the slaughtered warriors, the weeping children, the flayed and dismembered ones, and she mustered her courage. "No," she shouted. "I won't." She shook herself free of Señor Rueda's grip, then stripped her shield from her arm and threw it into the sand.*

*"What are you doing?" Señor Rueda, One-vulture, leapt down beside her. "Without us the sun will fail to rise, and the world will end. You must join us."*

*Pearl sat down in the gray sand. "I tried to understand, truly I did. But I will not serve these gods. Besides, the sun doesn't really rise. The earth turns. You know that."*

*Señor Rueda shook his head. "Not here, Four-movement. Not here."*

*The shouts gave way to mutterings, all the way up the column to the sun and back, and then every soldier fell silent. Pearl squinted at the sun, shieldless. Was it her imagination, or did the sun rock a little back and forth?*

*The deep voice spoke again, pleading. "Four-movement, without you and the other soldiers we are nothing. The sun is nothing. The world is nothing. Help us."*

*Pearl jumped to her feet. "I will not spend my eternity with you, Huitzilopochtli," she shouted. She turned her back on the sun and the soldiers. The dry plain stretched toward a distant horizon of darkness. Scraggly trees and thorny maguey plants grew in the unending sand.*

*Behind her the soldiers groaned. The bass-viol voice thrummed. "Four-movement!"*

*Then she heard Señor Rueda shout. "Look to the sun!"*

*She turned. The golden disk rolled to the left, then to the right. The sol-*

diars that had stopped climbing to plead with her scrambled up the column, hurrying to steady the life-giving fifth sun.

*Pearl wiped her hands on her hips and headed briskly into the desert. As she walked she studied the bleak landscape. For a moment she wondered what she would do for water and food, and whether there were rattlesnakes. Then she laughed. Silly woman! She was dead. Snakebites and sustenance were no longer concerns.*

*Perhaps Burney was somewhere out there.*

*Perhaps she would walk through nothingness forever.*

*But anything was better than staying here. Death had not turned out the way she had expected. Of course, neither had life, and she had managed that just fine. She would manage this, too.*

A maid in a cheap Mexico City hotel grabbed a bed as the floor rocked. Across the room a mirror crashed. People screamed in the street below.

Sofia crossed herself and held her breath. At last the floor steadied. That was the third *terremoto* this month, and the strongest. She hoped her children were not too frightened—either by the earthquake or by what their great-grandmother would tell them. The old woman thought the world was coming to an end. When Sofia went home tonight, the *abuelita* would shake her finger, again. “Earthquakes,” she would croak, clutching her dark-beaded rosary. “This world ends in earthquakes. That is what my grandmother taught me, and I teach you. The last one is coming. *Ya viene*. Soon.”

Sofia did not dare to contradict her grandmother, but she knew that Mexico had endured earthquakes for centuries past and would probably suffer them for centuries to come. People studied the quakes now, and understood them, and maybe one day would predict them. That was what her husband said.

Besides, he had argued, if the old stories were true, the world would have ended centuries ago, when the Spaniards arrived, and sacrifice to the old gods ceased.

She shrugged. Who could know the future? Some things were best left to God.

Distant sirens wailed. Car horns added to the din.

Sofia went into the bathroom and splashed her face, as her grandmother had taught her. Then she pushed aside the curtain at the tiny bathroom window and peered out.

The pale, fuzzy sun—the fifth sun—hung just over the roof of the next building.

She blinked. Was it her imagination, or did the sun tremble?

She closed her eyes, shook her head, looked once more. The sun hung as it always had, steady and still. She tried to laugh and could not.

From nowhere a hummingbird zoomed to the window and hovered in the lower lefthand corner. Its wings flashed green as it stared through the dirty pane. The maid stared back.

The tiny bird dipped to the right, then again to the left, swinging in wider and wider arcs. Finally it darted once more to the glass, hung briefly in the air, then tilted and sped away over the city rooftops, flying toward the sun. ○



# WE ARE THE CAT

Carl Frederick

Carl Frederick is a theoretical physicist, at least theoretically. After a post-doc at NASA and a stint at Cornell University, he left theoretical astrophysics and his first love, quantum relativity theory, in favor of hi-tech industry. The inventor of the first commercial digital modem, he now works as the chief scientist of a small company doing AI software. He has two more-or-less grown children and shares his house with a pet robot. For recreation, Carl fences épée, learns languages, and plays the bagpipes. He lives in rural Ithaca, New York. (He tells us rural is good if you play the bagpipes.) A graduate of the Odyssey Writers Workshop, his work has primarily appeared in *Analog*. Carl also has an interactive novel on his website <[www.darkzoo.net](http://www.darkzoo.net)>. You can click on the story to change the points of view and to expose sub-plots. (While there, you can also hear a nifty translation of the fruit-fly genome to music.)

**O**ver the din of falling rocks crashing against the sheer walls of the shaft, Paul heard a scream of pain.

"God damn it," Paul shouted, "I said don't look up." He squeezed himself into a cleft in the flare-out chamber. And cowering there, just meters from the entrance pit, he hoped that none of the rocks raining down onto his hard hat would be massive enough to break his neck.

He turned his head slightly, slewing the beam of his miner's lamp to illuminate Alex. At the same moment, the beam from Alex's lamp moved as well and Paul squinted against the sudden brilliance. Had they been under the sunlit sky and not in the blackness of a cave, they would be looking each other in the eye.

Again, Paul heard a sound of pain, this time a moan, and swung his



head and beam to the source: the third spelunker, Conrad Frith. Almost buried in the tumble of rocks, Conrad had slumped to the cave floor and seemed unconscious. His hard hat sat askew on his head, and the electric miner's lamp was dark.

As abruptly as it had started, the pummeling of rocks subsided and the roar of the limestone avalanche, amplified by the resonances of the caverns, went silent. When his hearing had adjusted to the eerie quiet, Paul could hear only the dripping water from the tips of the stalactites.

After a few moments, when he felt confident that no more rocks would fall, Paul pushed himself out of the small cleft in the cave wall and surveyed the damage.

He moved toward Alex, just a few meters away. "Are you okay?"

Alex took a step away from the wall that he'd squeezed against, but then let himself slide down to a sitting position. His face, which had registered fear, now showed a mix of relief and pain. He winced as he massaged his left leg just below the knee.

"Jeez," he said. "Hurts like hell." He explored the limb with both hands. "But I don't think it's broken." He wiggled his shoulder blades and let out a breath through pursed lips. "But other than that, yeah, I guess I'm okay."

Again, Paul heard the sound of falling rocks, but this time just a gentle clatter. He directed his lamp to the far side of the entrance chamber and saw Conrad freeing himself from the debris. "Conrad," Paul called out. "You okay?"

"Yeah. I think so."

Clambering over the rock-strewn cave floor, Paul made his way over. "No you're not." He shone his light strong into Conrad's face. "There's blood pouring down your forehead."

Paul called over his shoulder, "Alex, there's a first aid kit in the drag pack. If you can walk, would you get it?"

"Yeah, just a sec," Alex called back.

Paul removed Conrad's hard hat and, in the beam of the laser diode headlamp, he saw Conrad's Germanic-blond hair glisten a dark crimson. "Oh shit," said Paul under his breath.

"Jeez!" cried Alex, and Paul turned at the sound.

Alex tugged at the drag-pack line; the rope drew taut, one end vanishing under a pile of small boulders. "Buried," said Alex, "and even if we could dig it out, it'll probably be crushed flat."

"Damn it." Paul whisked off his gloves and zipped down his one-piece coveralls. He worked his way out of the elastic-cuffed sleeves, took off his shirt, and passed it to Conrad. "Here. Press this against your head."

Shivering in the damp cold, Paul fumbled with the zipper and struggled to regain the warmth and security of coveralls and gloves.

"Okay," said Paul, catching his breath. He took back his shirt and, though impeded by his thick gloves, managed to fashion something of a turban. He secured it on Conrad's head with the sleeves. "Score one for Boy Scout training."

Although a section of cloth covering Conrad's head was turning red, Paul let out a sigh of relief as he noted that the blood flow seemed to be stanching.

"Thanks, um . . ." said Conrad. He looked pained for a moment. "Thanks, Paul."

"What's the matter?" asked Paul. "Does it hurt?"

"No. It's not that." Conrad looked away, avoiding Paul's gaze. "It's just that for a moment, I forgot your name." He shook his head. "And that scares me a little."

"I wouldn't worry about it. You probably have a slight concussion."

"Concussion, yeah." Conrad sounded relieved.

"I hope this cave has another entrance," said Alex, softly, from behind.

"It doesn't," said Paul, still preoccupied with Conrad's condition.

"You're sure?" It sounded more like a plea than a question.

"Never absolutely certain about anything," said Paul. "I'm a quantum theorist."

"Boy, you're a great help," said Alex. "Thank you, Dr. Heisenberg."

Paul swiveled around, his beam making a quick circle around the cave walls. Alex had spoken with his usual flippancy, but a tremor in his voice gave him away.

"Well, it's your fault," said Paul, smiling. "What we get for taking an undergraduate along on a grad-student outing."

"Oh no," said Alex.

"Just kidding."

"It's not that." Alex pointed. Where there had been an entranceway to the vertical pit, a mountain of glistening rocks stood against the cave wall. "There's no way we can dig our way through that."

Paul suppressed a gasp and fought down a sudden panic. He was the cave leader and he knew he had to display calmness. "Theoretically, that should not have happened."

"Jeez. Theoreticians," said Alex, shaking his head and sending an oscillating beam of illumination against the cave wall.

"Switch off your light," said Paul. "Let's see if we can see any daylight."

Paul and Alex switched off their lamps; Conrad's was already dark.

"Nothing," said Alex.

"Keep your light off," said Paul. "Give our eyes time to adapt."

Paul struggled to see gradations of darkness, but there was no light. He had the notion that he'd suddenly gone blind and that there was no one in the dark with him. Listening hard for human breathing, he heard nothing but the occasional sound of dripping water.

*Why do I do this*, he wondered. But he knew the answer. Despite the cerebral rush he got from doing physics, he seemed to need a matching visceral high—an adrenaline rush. *And boy, am I ever getting that now. God, I'm scared shitless.*

"Alex?" he said after what seemed a lifetime, but could only have been a few seconds.

"Yeah?"

"Okay, lights on." Paul flipped the switch and felt warmed, even by the cold, blue-white illumination of the laser diodes.

But Alex's lamp stayed dark.

"Damn," said Alex. "Now *my* light's broken." He pounded on his head-mounted lamp, then took off his hard hat and flipped the switch a couple

of times. Still no light. "Jeez. You'd think the Outdoor Club might invest in some new equipment."

Paul sucked in a breath. Now they had only one light source between them. Paul shivered with a mental image of total darkness. As he turned to look at Alex, he realized he was moving his head slowly—as if a fragile treasure were balanced on his hard hat. *Damn it. We should all go back to using carbide lamps.*

Conrad, meanwhile, absently toying with his hard hat, started as the lamp blinked on. "Hey," he said, "and there was light."

"Thank God," said Paul. He looked over to where the drag-pack was buried, keenly aware of the loss not only of the first aid kit, but also of the crucially important alternate sources of light.

"Keep the lights switched on," he said. "Batteries should last a week, so if we don't mess with the switches, at least we'll have light. And it's a live cave so we don't have to worry about drinking water."

"A week," Alex mumbled under his breath. He nervously worked the switch on his dead lamp. "How long do you think it'll be before someone rescues us?"

"Don't know," said Paul. "When you got the gate key, how long did you say we'd be caving?"

Alex stopped playing with the switch, but he didn't answer.

"Alex?"

"No one was home, so I just took the key off the hook."

"Did you leave a note?" Paul spoke softly, trying to keep his voice steady.

"No, but when he gets home, he'll see the key's missing."

"God damn it," said Conrad, sitting, his back against the cave wall with his hard hat resting on a knee. He moved the hat to direct the beam into Alex's face. "For all we know, the guy's vacationing in New Zealand. And . . ." The beam wavered, casting Alex's silhouette flickering against the far wall.

"What's wrong?" said Paul.

"I forgot where New Zealand is."

Alex gave Paul a puzzled look. "It's near Australia," he said. "Anyway, someone's bound to see the van, not to mention Quantum."

"I wouldn't count on it," said Paul. "Only the owner and other cavers use that road." Paul looked down at his hands and willed them to stop shaking.

Conrad closed his eyes. "The road is roughly north-south and we're at latitude 41.5," he said, "and his leash reaches to the stream." Conrad slapped a hand against the cave floor four or five times, the glove making squishing sounds against the thin layer of mud. "So, at this time of year, considering the length of his leash, where it's tied to the car, and the path of the sun in the sky, Quantum should always be able to find some shade in the shadow of the van."

"Jeez." Alex slapped the wet rock of the cave wall. "We're trapped in a cave and all you can do is calculate if your dog's going to be comfortable."

Conrad opened his eyes, and his eyes were wild. "It took me a lot longer than it should have." He opened his mouth as if he were going to say something, then bit his lip.

"In the absence of mass," he blurted out, suddenly, "space doesn't become flat, it becomes undefined—stochastic."

"What?" said Paul.

Alex wrinkled his nose.

"If there's no mass, we don't need space," said Conrad.

Paul saw Conrad's hand begin to shake. "What the hell are you talking about?"

"It's right, isn't it?" Conrad spoke with none of his usual assurance.

"You okay?" said Paul.

Conrad put on his hard hat, then winced. "Ouch." He adjusted the hat, then stood. "I'm scared, guys. I'm losing my memory. I can almost feel it vanishing."

Alex and Paul stared at him.

"I've got to keep exercising my memory." Conrad leaned his head back against the cave wall. "I've got to talk about stuff."

"There are other things we could talk about beside physics," said Alex.

"I'm a physicist," said Conrad. "There's nothing else. It's what I am."

Paul, despite himself, laughed. "Come on, Conrad. Don't you think you're exaggerating a little?"

"No." Conrad looked away, into the blackness of the cave. "I come from a poor family." He spoke barely above a whisper. "We never had anything."

He turned and looked directly at Paul. His expression, Paul realized, was not the usual mixture of cool reserve and intense concentration. Conrad's face showed a real emotion—anguish. And his eyes, watery-bright in the beam of Paul's lamp, gleamed like tiny, blue bicycle reflectors.

"All I have is what I know and how well I can think." Conrad stroked his cheek, leaving a smudge against his nose. "I don't smoke. I don't drink. I won't do anything that could impair my mind. And now this." He walked over and sat facing Alex and Paul. "Please. I don't know what else to do."

"Okay," said Paul. "Nothing much we can do anyway—except wait." Paul suddenly wished he weren't the leader; then he wouldn't have to hide being scared.

"We could look for another entrance," said Alex. "There might be one."

"There might," said Conrad, his voice calm, like his normal self—but his eyes gave him away.

Paul worried. Conrad always had a sharp memory. "Conrad," he said with forced calmness. "We've done this cave a lot together. It's a simple cave. We've never seen even the hint of an alternate entrance."

"You see? I'm losing it!" Conrad shouted. His voice, harsh, reverberated against the walls. He jumped up and then pounded a gloved fist against the wall. "So, in the case of the two slit experiment," he said with a strained steadiness, "even if we measure which slit the particle went through, the interference pattern is not affected as long as the measurement is not remembered."

"What?" said Alex. "That's not true. Any measurement of which slit the electron goes through, destroys the pattern."

Paul smiled. He didn't know how therapeutic this conversation was for Conrad, but it was certainly taking Alex's mind off their problems.

"That's the establishment view," said Conrad. "But it's wrong. Look. An electron is charged. It has a field, and when it goes through a slit, the atoms making up the walls of the slit feel the effect of the field. So those

atoms are making the measurement. But they don't 'remember' the measurement. It's a question of memory." Conrad's voice wavered. "... of memory."

"It's all right, Conrad," said Paul, "I can't be certain there's not another entrance."

"Blessed are the uncertain," said Alex, "for maybe they shall see Heisenberg."

Paul shot him a look, then turned to see Conrad ambling off further into the cave. "Conrad, wait." He scrambled to his feet. Alex stood as well.

Conrad stopped and looked back.

"So, what you're saying is," said Paul, humoring his friend, and Conrad very much seemed to need humoring, "is that only if a measurement is remembered and then communicated to the rest of the world, will the interference pattern go away."

"Precisely. And the argument holds for Schrödinger's Cat as well."

"That's nonsense," said Alex. "Memory is not a physics concept."

Paul resisted the urge to kick Alex in the shins.

"Okay, a flip-flop," said Conrad. "Imagine the latch being set if the slit atoms detect the electron."

"A flip-flop isn't a physics concept either," said Alex.

Paul idly wondered which of Alex's shins was the bruised one.

Conrad turned and began strolling toward a sliver-like passage dimly seen against the far wall. Paul, despite himself, couldn't help thinking about the physics. He followed after Conrad. Alex shuffled along as well.

"All right," said Conrad. "Forget about flip-flops. Think about time-reversal."

Paul stopped. "Wait. Are you saying that if you time reverse an experiment, and the time-reversal makes sense, then it is not a measurement?"

"Yes." Conrad continued walking. "I think so. I think that's what I think. If there's no arrow of time, then. . . ." Conrad picked up his pace.

"Where are you going?" asked Alex.

"To look for another entrance."

"Come on, Conrad," said Paul. "Let's sit down. Conserve strength and all that. We can talk physics." He plopped down on a smooth-topped calcite formation and indicated that Alex and Conrad do the same. Alex sat, but Conrad kept walking.

"Hey, Conrad," said Alex. "Sit down. I thought you wanted to talk physics."

Conrad stopped for a moment, started to turn, then paused and continued walking toward the far passage. "Yes," he said, "I did. But I'm forgetting basic ideas. I remember saying things about them but I don't remember why."

"Please, Conrad," said Alex. "I'd like to ask you about some physics stuff that bothers me."

Paul felt a new respect for the sophomore physics major. Alex was certainly trying to help.

"Look," Alex went on. "When it really comes down to it, I don't really even understand magnetism. How can a magnetic field go through a vacuum? It wouldn't really be a vacuum then."

Conrad stopped and looked back. "The world is more complicated than it seems."

"Don't give me that," said Alex. "That's just using fancier words for 'I don't understand it.'"

"I understand it," Conrad sighed. "At least I did up until a few minutes ago." He turned and continued walking.

"Sit down," said Paul. "It's just the effects of the concussion."

"Maybe," Conrad quickened his pace. "But I don't want you to see me turn into an idiot. I don't want you to see me unable to do physics."

Alex started to get up, but Paul waved him to stay seated. They both watched as Conrad faded into the dark passage, his light flitting from wall to wall as he walked.

"You shouldn't have let him go," said Alex when all hint of Conrad's light had disappeared.

"How do you suggest I could have stopped him? He's not exactly the sort of person you can give orders to." Paul clenched a fist. *And I'm not about to humiliate my friend.*

Alex let out a sigh. "I guess." He looked at Paul. "But now that he's running on write-only memory, he could get lost."

Paul looked over at the far passage, too far away for his miner's lamp to pull it from the darkness. "This is a simple cave—pretty linear geometry."

He lifted his feet to rest on the formation and, knees bent, leaned forward and circled his legs with his arms. Looking down at his feet, he concentrated on the small disk of jittering brightness cast by his lamp. "But what I'm really worried about is that now we have only one light."

"What'll we do," said Alex, his voice mirroring the jittery movements of Paul's beam.

"Nothing. Just sit tight."

"I can't." Alex moved his head erratically from side to side, as if he could actually see into the darkness. "I keep feeling the cave's going to collapse and crush me."

Paul forced a laugh. "Claustrophobia. This is your first cave. It's normal."

"Yeah. Thanks a lot." Alex jumped to his feet and took a step or two forward, and then turned back "I can deal with the claustrophobia." He sat heavily on the rock. "But I can't stop thinking about what will happen if your light fails."

"Yeah." Paul closed his eyes for a moment. "Worries me, too." He slowly got to his feet. "Okay, we've got to go find Conrad. I hadn't realized till now how much I miss his light."

Alex stood, and Paul led the way towards the sliver-like cleft. "Besides," he said, "you're right. What else is there to do?"

At the fissure, Alex held back, apparently with second thoughts. "That's really narrow," he said. "What if we get stuck?"

"It widens out after a couple of meters, but then there's a crawlway." Paul slid sideways into the passage. "And the secret of a crawlway is to keep your arms at your side and inch forward by pushing with your toes."

"I'm not sure I like this," said Alex, as he too slid into the fissure.

"Wait till you see the view at the other end." Paul grimaced. *That was a really lame thing to say.*

The passage ended at a nearly circular, but very small, opening at ground level. Paul dropped to the muddy floor. "Now for this little worm-hole," he said as he wiggled into the opening.

"It won't take us to another universe, I hope," said Alex from behind. "You know, this is sort of spooky. What if you get stuck?"

"Unlikely. If I do, you can squirm up close to me and I'll be able to push forward against your hard hat."

"What if I get stuck?"

"You're thinner than I am." Paul panted from the exertion. "But yeah. This isn't exactly the Lincoln Tunnel. Anyway, if you can take full breaths of air, you can be sure you won't get stuck." He inched forward, digging in with the toes of his boots and pushing ahead. "It's only when a passage gets so narrow you have to take shallow breaths that things start to get dicey. Hard to talk in those passages. Makes you feel really alone."

"I don't like this," said Alex.

"You're doing fine," said Paul. "We're at the narrowest point now, and you're still talking."

The wormhole ended at a large chamber. Paul and Alex clambered out and stood.

Sweeping with his miner's lamp, Paul saw irregular, translucent columns of pale green and pink: calcite cave formations some two meters thick. Water trickled down from the ceiling, sparkling in the beam of his lamp. Icicle-like stalactites hung from the cave roof, their colors ranging from milky whites to greens to pale blues, with occasional sprinklings of pink. The walls were wet and water-carved, revealing striations that traced the history of the cave over thousands of years.

"Pretty, isn't it?" said Paul.

"Yeah." Alex gawked like a tourist. Then he rubbed a gloved hand across his forehead, leaving more mud on his brow than he'd removed. "But I think it would look a lot prettier to me if I didn't think I'd be gazing at it for the rest of my life."

Paul chuckled—forced, but still a chuckle.

"Damn it, Paul." Alex pounded a fist against the cave wall. "Doesn't anything scare you?"

"I try not to let it. Besides, what's the use?" Paul felt an instant of satisfaction. He'd been able to fool Alex; he'd been able to mask his panic.

Alex shrugged and shook his head.

"I was scared shitless on my first caving trip, too," said Paul. "Afraid I'd panic and make an idiot of myself."

"That's not what I'm scared about."

"I know."

Alex absently snapped off a small stalactite and fiddled with it.

"Don't do that," said Paul. "We've got to protect the cave for the next visitors."

Alex laughed, his voice echoing hollow in the hard-walled chamber. "Yeah. Next visitors."

"We'll be okay," said Paul. "We may be in the cave for a while, but we'll be okay." He pointed toward the rear of the chamber. "Come on. Let's find Conrad."



Two openings, close together and fissure-like, pierced the back wall. Paul stood a few meters in front and gazed at them.

"Are you wondering which way Conrad went?" said Alex.

"It doesn't matter." Paul shook his head. "They both go to the same chamber. I was just thinking; it's like a two-slit experiment."

Alex laughed. "Yeah. If Conrad really has no memory anymore, then by his theory, he could have taken both paths."

Paul continued gazing at the fissures.

"I'm joking," said Alex. "Please tell me you know I'm joking."

"Yes. I know you're joking. I do not believe he went through both passages." Paul paused a second or two. "But . . ."

"But what?" Alex stared, wide-eyed. "God, don't tell me you're losing it, too."

"I was just thinking," Paul stroked his nose and stared at the clefts in the rock wall. "I was just thinking that our situation is sort of like the Schrödinger Cat paradox."

Alex looked up at the ceiling. "You *are* losing it."

"In the Cat Paradox, the cat's neither alive nor dead until someone opens the door to the box—until someone makes a measurement."

"I thought there was more to it than that," said Alex, "linear superposition of states, or quantum events, or something like that."

"Quantum events happen all the time," said Paul. "What makes the cat special is that it's in a box and cut off from the rest of the world."

"I don't know why I'm humoring you," said Alex. "But are you saying that we're neither alive nor dead?"

"Just speculating," said Paul. "In the multi-world quantum interpretation, being cut off could mean that we're not in any well-defined world."

"You're saying that we are the cat?"

"Just a thought." Paul shrugged. "Conrad believes that only memory or the act of being observed keeps a system in one world."

"I know what world I live in," said Alex. "I have memory."

"Yeah," said Paul. "But maybe Conrad doesn't. Now, maybe there are multiple Conrads flitting between multiple worlds." Paul kicked at a small rock, barely snapping it free from the centimeter-thick layer of mud. "But since our wave-functions interact, we're probably forcing our Conrad to stay in our universe."

"Okay, okay," said Alex. "This is starting to weird me out. Let's go find Conrad." He walked to the left fissure and waited. Paul had to take lead; he had the only source of light.

Paul scuttled sideways into the opening. "This is roomier than the last one."

Alex followed. "Roomy? I'd feel better if I could just walk, one foot in front of another. Hey," he cried out. "Something flew by my head."

"A bat, probably." Paul swung his head around, hitting his helmet against the wall. His light went dead. "Damn." He flipped the switch a few times, but the lamp stayed dark. "God damn."

"What happened?" Alex called out.

"Slammed the light and it went off."

"I can see that." Alex's voice sounded sarcastic and nervous at the same time. "Turn it on."

"I'm trying." Paul tried working the switch—pushing the toggle forward and back, up and down.

"Paul?"

"What?"

"I can't hear you. I can't see you."

Paul, still fiddling with the switch, didn't answer.

"This is sort of scary," said Alex.

Paul, by feel, tried to disassemble the lamp.

"Paul," said Alex with a tremor in his voice. "Are you there?"

"Of course I'm here. Where else would I be?"

"Aren't you a little scared?"

"Sheesh," said Paul. "Well. I'm not exactly thrilled about the situation." He got the lamp apart, but he dropped a battery and even if he could have seen it, he had no room to bend down and pick it up. *Damn it to hell.*

"Paul?"

"What?" Paul turned his frustration from the lamp to Alex. "We can't keep playing Marco Polo forever, you know."

"That's a good idea," said Alex. "Do you mind? I get nervous not knowing you're there. So, if I say 'Marco,' you say 'Polo.' I'll do the same for you. Humor me, okay?"

Paul shrugged in the darkness and his shoulders hit the sides of the fissure. "Yeah, fine. Polo."

"Thanks."

"But," said Paul, "can't you hear my breathing?"

"Yeah, and I hear you slithering along the rocks. But, well. . . ."

"Well what?"

"But it's kind of creepy." Alex laughed, but it didn't sound like he'd found anything funny. "And I'm never really sure it's you."

Paul shook his head as he reassembled the now thoroughly useless lamp. He put his hard hat back on.

"What do we do now?" said Alex.

"Keep going. We've got to get out of this passage and find Conrad—fast." He started scrambling through the passage. "If Conrad were to come back looking for us and if he went through the other passage, we'd really be up the creek."

Paul, despite all his experience spelunking, began to feel that the walls were slowly shifting—that they were coming together. He wrinkled his nose in the darkness; after all the times he'd gone caving, only now did he realize how he hated the acrid smell of wet calcite.

Bumping his knees and twisting his ankles as he went, Paul pushed forward.

"Marco."

"Polo," said Paul, strangely relieved at the sound of Alex's voice.

After a minute or so of strenuous scrambling, Paul said. "Alex. Are you there?"

"Yeah. Of course I'm here. Where else would I be?" said Alex, repeating Paul's words with some added measure of sarcasm.

"I just wanted to make sure you were okay," said Paul.

"No. You were just too proud to say 'Marco.'"

"Okay, okay."

"Paul?"

"Yeah."

"Do you think Conrad's right when he says that without mass, space becomes undefined?"

"Yeah, could be." Paul wondered if Alex was actually interested in physics at the moment, or just using it as a variant of "Marco."

"Even though Einstein says it becomes flat?"

Paul laughed. "Einstein didn't believe in quantum mechanics."

"What about this multi-world stuff. Is this really possible?"

"It's a real theory. In fact, some people say we're always flitting between these parallel universes—but no one notices because they're all extremely similar."

"But Conrad thinks that without memory to hold us, we could wind up in a very different universe."

"You'll have to ask Conrad about that." Paul hurried forward and suddenly tumbled out of the crevice. "Watch it, Alex," he said. "We've come to the end of the fissure. I'm in a big chamber now."

"Yeah," said Alex. "I can tell by your voice."

Paul heard him come through and stumble. "You okay?"

"Yeah. Now what? Oh my god."

"What's the matter?"

"Look hard over to the rear," said Alex. "Gosh, I can't even describe where to look in this damn blackness."

"What are you talking about? It's not as if there's anything to see."

"But there is." Alex virtually squeaked in excitement. "At least I think there is."

Paul quickly scanned across 180 degrees. "Probably just the effect of darkness, your brain trying to supply light."

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"Oh." Alex sounded crestfallen. For a half-minute or so, neither spoke, but then Alex said, "Paul, try to see it. I think it's real."

Paul did try.

"Well?" said Alex.

"Maybe, but I'm sure it's a mental glitch. Hey." Paul felt a hand touch his back and then feel its way down to his arm.

"I'm going to point your arm to where I think I see it," said Alex.

Paul let his arm be directed, and then he gasped. His arm was pointing about twenty degrees upward and in the direction of his own perception of the light.

"Well?"

"It might be real," said Paul. "Come on. Let's check it out. But don't get your hopes up. It might be cave fluorescence. Never seen that in this cave, but I've never been fully dark-adapted before either." Paul hurried as fast as darkness would permit. "Marco," called Alex from behind.

"Polo. Ouch."

"What happened?"

"I slammed into the wall. Oh my gosh. It's coming in from a side passage and it's real. Must be Conrad." He waited until Alex bumped into him and then shouted, "Conrad. We're over here." He spoke to Alex. "Come on. Let's go meet him. Light has never looked so good."

"Conrad," shouted Alex from behind.

They scrambled toward the light.

"Why doesn't he answer?" said Alex.

"And why isn't the light flickering?" said Paul. "I hope he's not unconscious."

Then they heard a distant shout. "Paul, Alex. Over here."

Paul jerked his head around to a point downward and about thirty degrees off to the left of the light. He saw another light, this one flickering. He stopped and Alex banged into him.

"If that's Conrad," said Alex, "then the other light's coming from another entrance."

Paul called out, "Conrad, we're coming."

"No. Stay where you are," came Conrad's voice. And he sounded his usual, confident self. "I'll come over and guide you to the entrance."

"Okay," Paul shouted back. He spoke softly then, almost under his breath. "I can't believe there's really another entrance."

Alex laughed, a laugh of relief. "It's because of that entrance we're alive."

"You know," said Paul, his voice tentative. "Maybe not. Maybe because we're alive, there is an exit."

"I don't know what you're talking about."

"Yeah," said Paul, as Conrad came into seeing distance, "I'm not sure I know what I'm talking about either. Just some multi-world stuff."

"Your light failed?" said Conrad as he came up.

"Yeah," said Alex. "Boy are we happy to see you, and I mean 'happy,' and I mean, 'see.'"

Conrad laughed. "Come on. Let's get out of here. You've probably had enough cave for your first time." He turned to Paul. "I've got my memory back—all of it, I think."

"Great," said Paul, clapping Conrad on the back. "Concussions can be serious."

Paul knew that some of his cheerfulness was play-acting; he was thrilled to be rescued, of course, but he couldn't shake the feeling that, in some manner, his brain had let him down. "By the way," he said with a studied nonchalance. "How did you find the entrance?"

"It's where it always was. I'm a little surprised you don't remember it." Conrad turned and strode toward the diffuse light in the distance.

Alex ran to follow, leaving Paul to bring up the rear.

Presently, they turned a bend in the passage and some thirty meters ahead, saw daylight filtering through a dense green mass of shrubs and scraggly ground vines. Paul noticed that the vines were adorned with thorns.

"Not the entrance of choice," said Conrad, "but it works."

Alex rushed forward, and head down, using his hard hat as a shield, burst through the tangle of greenery. The thorns ripped into Alex's high-tech, microfiber caving coveralls, but he didn't seem to notice.

Paul, taking advantage of the hole Alex had cleared with his body, darted through.

While Conrad more carefully made his way out of the cave, Paul tried to get his bearings. Squinting in the dizzying sun-bleached brilliance, he looked over the terrain; they weren't actually very far from the original entrance. Paul stood basking in the familiar—the green, sunlit, craggy hills of upstate New York. He could see Conrad's SUV parked just off the road and could even see the rubber rat Conrad used as a dashboard ornament. And Quantum, Conrad's Belgian Shepherd, leash tied to a door handle, was sleeping, stretched-out, in the shadow of the car.

Conrad came up from behind. "Okay, let's go home." He jogged lightly toward the van.

"I'm sorry I acted like a kid back there," said Alex, standing beside Paul.

"Not to worry," said Paul, still taking in the scenery. "Lots of people, when they go through their first wild cave, feel very vulnerable—like little kids. Besides, we're physicists. We're supposed to act like kids."

Paul, at a walk, started down after Conrad, stopping every so often to swat at a mosquito. After hours in the perpetual fifteen degree Celsius coolness of the cave, the summer heat felt oppressive and the humidity trapped in his cave-coveralls quickly turned to sweat.

As Paul and Alex came up to the car, Quantum, who'd been jumping about happily and licking mud off Conrad's face, bared his teeth and growled.

"Hey." Conrad knelt in front of his dog. "Quant, boy. These are old friends." He looked over his shoulder. "Don't know what's gotten into him. He probably blames you for him being tied up here for all this time." Conrad stood. "Or maybe he knows that we're taking him to the Quantum Mechanic."

"You mean the vet?" said Alex.

"Maybe you guys better ride in the back and let Quantum sit up front with me."

"Yeah, fine," said Paul. He glanced at Conrad's improvised head-ban-dage. "You could use some mechanic work as well."

"Naa. I'm okay." Conrad gingerly touched his scalp. "Well, maybe if I bark a few times, the vet might take me after he finishes with Quant."

The three cavers stripped out of their mud-encrusted coveralls, dry-washed their faces, and packed what little gear they had left into their duffels.

"Too bad about losing our drag-pack," said Conrad.

"Better than losing our lives," said Alex.

While Conrad untied Quantum's leash from a rear door handle, Paul keyed in the car-lock combination. But the door didn't open.

"Hey, Conrad. Did you change your combination?"

"No. It's still Pi to five significant figures."

"I keyed in 31415, and it doesn't work," said Paul.

"It's 31416. Rounded."

"But you always truncated it."

"No I didn't." Conrad reached forward and keyed in the combination.

"Maybe the cave-slide shook you up more than you're letting on."

"Maybe."

The doors opened. Conrad plopped down in the driver's seat and Quantum jumped in and over him, settling himself in the front passenger seat. Paul and Alex took the back.

Conrad started the engine. Because of the van's noisy muffler, conversation was difficult.

As they drove off, Paul stared out the window and couldn't shake the feeling that he was looking at familiar scenery from unfamiliar angles.

"Well, Alex," Conrad shouted over the muffler roar, "you've just survived your first caving trip. Did you learn anything?"

Alex laughed. "Yeah. A lot of physics."

"Oh? Like what?"

"Well," said Alex, loudly. "In the absence of mass, space becomes undefined."

"What?" Conrad looked in the rear view window. "That's nonsense. Space becomes flat."

Alex and Paul exchanged glances.

"What do you mean?" Paul asked the image in the window.

"Einstein was convinced of it and since last week's Felixhaugen lecture, I am too." Conrad shook his head. "Boy, that Felixhaugen is really sharp." He locked eyes with Paul. "I saw you come late to the talk. What did you think of it?"

"What the hell are you talking about?" Paul spoke more loudly than he needed to. "And who the hell is Felixhaugen?" He stared wildly at the rear view mirror; Conrad stared back and there was no doubting the worry on his face.

"I wonder," said Conrad, "if perhaps now you've lost *your* memory."

Alex leaned over and whispered into Paul's ear. "Something's wrong here. I'm scared."

"Yeah," said Paul, softly, "maybe I'm scared, too."

Quantum jerked his head around and growled at them.

"And Quant," said Paul, under his breath, "seems not to like cats." ○

# SILENCE IN FLORENCE

Ian Creasey

**"Silence in Florence" is Ian Creasey's third story for *Asimov's*. He tells us this piece was inspired by a newspaper article about an exhibition devoted to portraits of servants. "One seventeenth-century picture showed a woman whose job was to scour out chamberpots. In the painting, she wielded her broom in a similar style to martial portraits of dukes and generals. It reminded me of how often fiction concentrates on so-called important people, the movers and shakers of their era, while relegating servants to mere background props. I wrote this story to redress the balance, and give the chambermaid her due regard."**

**T**he chamberpots held only dust. Maria picked one up, and sniffed a faint tang of rose-water from the last time she had cleaned it—three days ago, before the visitors arrived. Did the foreigners think themselves too good to piss in a pot? How could they? Under their fancy robes, everyone had the same bodily functions. Maria had emptied the pots of princes and cardinals, ambassadors and artists; the more wine they drank, the smellier their urine became. But now—none?

Maria shrugged. If the pots were empty, she'd complete her rounds quicker. She needed to finish all these apartments while the occupants toasted the Feast of St. John the Baptist downstairs. To remove the dust, she gave the chamberpots a quick wipe with a jasmine-scented rag. Then she left the visitors' apartment.

On her way to the next stateroom, she met her daughter scurrying



down the corridor. "What is it?" she asked, no longer hoping for an answer in words. At eleven years old, her daughter had still never spoken. Maria hoped the others hadn't been teasing her again. Sometimes they would send Cristina with messages too complicated to be delivered by gestures.

Cristina tugged at her mother's apron. Maria allowed herself to be guided through the servants' passages—the Pitti Palace had a network of cunningly hidden corridors and stairways, so that the nobles never had to meet anyone carrying a chamberpot. Soon they arrived at the artists' quarters. So many artists spent so much time working in the Palace that Cosimo II had given them their own suite of rooms. Although it was not far from the servants' own quarters in the basement, the artists made it clear that they considered themselves superior.

Giovanni da San Giovanni panted in short gasps as his sweat shone in the candlelight. A younger artist, holding Giovanni's arm, said, "He's getting worse. Take that to Alessandro"—he pointed to a chamberpot—"and tell the good doctor to find out what ails Giovanni. He may have taken some wine, but he is not just drunk."

Maria realized they'd summoned her because Cristina couldn't tell the doctor whom the chamberpot belonged to. She smelled ordure under the lid. The artists could have taken the pot themselves, but that would have been beneath their dignity. Was it only in Florence that artists considered themselves almost equal to the popes and Medicis who patronized them? Maria didn't know; she had never even crossed the Arno.

On the way to Alessandro's room, Maria said a short prayer over the chamberpot. Giovanni looked as if he might need more than the doctor's aid to recover.

She let Cristina tag along, although there would be work for her somewhere in the Palace—there was always work for everyone. The girl skipped along the corridor, smiling at her mother, running her finger along the frescos until Maria took her hand. Painted angels looked on impassively, as if they didn't care what would become of Cristina when Maria passed away.

In the doctor's small room, a tub of leeches stood among untidy heaps of glassware and steel instruments. Alessandro's moustache twitched as he smiled ruefully and put the chamberpot on his table. "There should be a better way to diagnose sickness than poking around in here." He had said this a dozen times before, but Maria still felt warmed by the words. At least he spoke to her, and treated her as a person. If she met him in the courtyard, his gaze didn't slide away into the distance.

"And how are you today?" Alessandro asked the fair-haired child poking among his scalpels and bloodletting cups.

Cristina didn't answer, but only ducked shyly behind her mother.

"No change?" he asked quietly.

Maria shook her head. Even though she couldn't afford to pay him, Alessandro had examined her daughter several times over the years. He had never been able to find out why she couldn't speak.

It was an old pain, not worth bringing up again. Maria cast around for a change of subject, and remembered the empty chamberpots in the visitors' apartments.

"You'd find treating the foreigners more pleasant," she said. "They produce neither piss nor stools."

Alessandro laughed. "Don't be silly. Every man produces bodily wastes. After all, what goes in must come out."

"I haven't seen any for three days," Maria said.

"They probably go elsewhere in the Palace—the garderobes, or the outside privy. But enough talk of stools. I must get on and examine poor Giovanni's."

Maria shook her head as she left. Alessandro might talk of the outside privy, but twenty years as a chambermaid told her that no one would walk all that way from the Palace's upstairs apartments, not when they could piss in a pot in their own room.

And yet Alessandro was right. What went in, must come out. Did the foreigners even drink, or did they spurn Tuscan wine like Tuscan chamberpots?

Maria turned to her daughter. "Would you like to see the nobles at the banquet?"

Cristina nodded eagerly.

"Then come along." Maria knew that her silent child could be counted on not to disturb the guests.

They went via the kitchens. Standing just outside the hall, dodging the trolleys of confectionery steered by liveried footmen, Maria and Cristina looked in at the feast. The smell of roast duck and spiced wine rose to the haloed saints on the high-vaulted ceiling.

Everyone was so richly dressed, it took Maria a few moments to spot the three visitors. Yet they stood out, because even now they still hadn't removed their veils.

The plague had hit Tuscany so many times that people often wore veils when traveling, or even strolling in the city streets. But at table? It seemed an insult to the Duke, to everyone else at the banquet. Yet no one looked offended. Two of the foreigners flanked a middle-aged, bushy-bearded man whom Maria recognized as Professore Galileo Galilei, the philosopher who studied the sky with his spyglass. The group talked animatedly, pushing salt cellars and duck-bones around the table. The third visitor looked away, gazing at the richly decorated walls, full of Bible scenes painted by the finest artists of the age.

Maria saw that the foreigners neither ate nor drank. Galileo sipped wine, and ate sugared citrons. The young Duke Ferdinand and all his guests feasted with gusto. Only the three visitors let nothing past their impenetrable veils. Behind their lace, robes, and gloves, not an inch of skin could be seen. Did any flesh lurk behind the clothes, or were the visitors just hollow masks? Maria shivered.

Cristina had grown fretful while Maria stared, and the kitchen servants began giving them both dirty looks for standing around, shirking. They had to get back to work.

Upstairs, Maria told her daughter to finish cleaning out the chamberpots from the other staterooms. Maria loitered in the corridor, waiting for the end of the feast, when the guests might return to their apartments. What kind of men neither ate nor drank, nor pissed or shat? What kind of men didn't even show their skin?

Clearly, the foreigners weren't ordinary men. And if not men, what were they? Maria thought they could only be angels. Of course angels wouldn't eat earthly food, or have earthly functions. The robes and veils concealed their divine light.

Angels! The thought was beyond wonder, beyond comprehension, like opening a lamp and finding a star inside. Yet God had uncounted angels, and the Duke's artists showed them talking to saints, walking with people. They had simply stepped from the frescos and donned cloaks.

Why would angels come to Florence? Were they judging the town for sin? Maria trembled for a moment. But then she remembered the friendly way they'd talked with Galileo, who was in trouble with the Church, and she felt they had probably not come for that.

Anyway, if they came to judge sin—why now? Every Sunday, Father Niccolo denounced the town's sinfulness and predicted damnation, as every priest had done since Savonarola's bonfire of vanities more than a hundred years ago. Maria couldn't believe that Florence today was more or less sinful than it had ever been.

No, the angels hadn't descended to punish sin. And so—perhaps they might be merciful.

Maria heard a swell of conversation from downstairs, as the hall doors opened and the guests began to disperse. "Cristina!" she called.

Cristina emerged sullenly from the opposite room. Maria saw people climbing the stairs, and she dragged her daughter behind the servants' door, leaving it ajar to see who approached.

Veiled figures strolled down the corridor, silent as clouds. Maria took deep, shaky breaths. Could she ask a boon? Did she dare? She might annoy them—no doubt they had higher concerns. But if she didn't take this chance, she would never have another. And for the rest of her life, every time she looked at Cristina, she would remember that her own silence had sealed her daughter's.

Maria waited until the visitors neared their apartment. Then she stepped out and confronted them. She had feared she would be too terrified to speak, but holding Cristina's wrist gave her strength. "Most merciful angels," she began. "I pray you in God's name, heal my daughter."

They stopped. Their blank, masked gazes bore into her. Maria wondered what else to say. Surely the angels, with divine wisdom, would know what ailed Cristina. And yet—if they knew all things, they wouldn't need to come down to Earth from Heaven.

The angels glanced at each other, then back to Maria, who said, "Cristina is mute. She hasn't spoken or cried since she was born. Life's hard enough for servants, but for a girl who can't speak to complain of a beating, or of worse things. . . . What will happen to her when I'm gone?"

One of the angels spoke in a voice resonant as bells. "Can she not write messages?"

Maria bowed her head, stifling her resentment at this mockery. "How can servants ever learn to read? Such luxuries are beyond our means."

The angels huddled together, and spoke rapidly with a rasping buzz. Maria had heard a dozen languages spoken in the Palace, but this sounded like none of them. Perhaps it was Hebrew, or a purer language spoken only by dead souls in Heaven.

But did people argue in Heaven? Maria couldn't understand what they

said, but from the speed and vehemence of the words, she felt sure the angels disagreed among themselves.

Cristina grabbed Maria's arm. Maria looked down and saw her daughter's pained expression. She released her tense grip on Cristina's wrist, revealing red wheals in the flesh where her fingers had gouged. Cristina hadn't, of course, cried out with the hurt.

Finally, a red-robed angel—not the one who had recommended writing messages—said, "We will examine the girl. But you must wait here."

"Thank you," said Maria, bowing again. As she sketched the sign of the cross, her heart skipped in exultation. She touched Cristina's cheek for a long moment, then said, "Go with them, my darling. And be brave."

The angels took Cristina into their room. Maria sat down outside to wait and pray. Time slid by, as slowly as embers dimming into ash. She wondered what Cristina would see, and whether she would ever be able to tell it.

The French ambassador walked down the corridor, and found Maria slumped by the wall. "These servants grow cheekier by the day," he said to his friend. He kicked Maria hard in the buttock with his fashionably pointed shoe. "Get up, you lazy slattern!"

Her trance broken, Maria looked up at the French nobleman. Whatever he saw in her eyes made him hurry to the stairs, almost tripping over the broken end of his shoe.

Maria gazed at the angels' apartment, wishing she knew what was happening to Cristina. She noticed white light shining through the crack at the bottom of the door, a light brighter than any oil lamp or log fire. The radiance of Heaven!

She pressed her ear to the door, but could hear nothing through the thick wood. The light dimmed.

The door opened, and Maria almost fell through it. One of the angels came out with Cristina, who looked pale and frightened. "We've done the best we can," the resonant voice said. "But don't let the sick crowd our door. We've already done more than we're permitted, and we're leaving tonight." Before Maria could utter any thanks or praise, the veiled figure slipped back inside.

Maria hugged her daughter, and saw a small red mark on Cristina's neck. "Are you all right?" she asked. "Can you speak?"

Cristina opened her mouth. After a few moments, a faint croak emerged from the back of her throat.

"It's a miracle!" Maria dropped to her knees, and pushed Cristina down too. "Oh Lord, we thank you for the gift of your angels."

Maria hoped that Cristina would join her prayer. Her first words should be ones of praise. But Cristina didn't speak. Instead, she made a drinking sign.

*Water.* They hastened downstairs. After the girl had drunk two cups of water, Maria asked again. "Can you speak?"

Cristina opened her jaw wide. Maria saw the muscles in her neck tense as she strained to make a sound. A squeak burst forth, as harsh as the scrape of a rusted hinge.

It was enough. "Hush now," Maria told her daughter for the first time. "You should rest. Perhaps some honeyed wine, if there's any left from the banquet."

She realized there'd be no sudden gift of tongues. Cristina would have to learn to babble like a babe before she could talk in words. But even this painful squeak sounded as precious as if Cristina had called her "Mama."

Maria gave her daughter a drink of warm sweet wine, and put her to bed. Then she left the cramped servants' quarters in the Palace basement. No matter what angels might visit, no matter what miracles might occur, she still had work to do. Too many people had seen her slacking today.

She frowned. Cristina had finished the upstairs apartments. What else needed doing? Maria remembered her visit to Dottore Alessandro. She'd have to go back and retrieve Giovanni's chamberpot. The doctor scrutinized so many samples that chamberpots kept accumulating in his room, and people shouted at her for losing them.

And she could tell the doctor about Cristina's marvelous miracle.

She rushed to Alessandro's room, where the eager words spilled out of her like water from the new fountains.

The doctor had been using a spyglass to examine a small brown turd. He gave her an exasperated look and said, "Angels? The artists paint angels all the time. They need something to fill the sky."

"No!" Maria flapped her arm in frustration. "Real angels—here, in the Palace. They cured Cristina!"

Alessandro stood up, his eyes wide with amazement. "Cristina can talk?"

Maria hesitated. "She hasn't said any words. But she made a noise. She squeaked!"

"Angels made your daughter squeak?" The doctor sighed. "Maria, you have to face the truth. If your daughter hasn't spoken in eleven years, she's never going to. Now take this damned chamberpot and tell Giovanni to lay off the wine."

He thrust the pot toward her. Maria threw it to the floor, where it smashed into a dozen pieces and splattered ordure over their feet.

"You're just jealous because you could never heal her. You never heal anyone! Poking around in shit—God knows people look down on me for cleaning it, but what about you? Look at yourself!"

She braced herself for a blow, but Alessandro only sat down and wiped his shoes. "I know we don't heal as many as we should," he said in a tired voice. "The plague reminds us often enough. I'd poke through a whole cesspit if I could find a cure at the bottom. But because we fail, people turn to angels and toads, spells and dreams." He shook his head.

Maria picked up the pieces of the broken pot, already regretting her temper. Alessandro had always done his best; it was no fault of his if angels could surpass him. Yet he should at least listen to her.

"They *are* angels," she said. "They neither eat nor drink, nor fill chamberpots, nor show their face. They hide their light behind robes and veils."

"Oh, you mean the easterners." Alessandro smiled. "They explained why they wear all that—it's one of their customs. They're staying in the new wing, aren't they?"

Maria nodded.

"Then come along, and I'll show you something."

Alessandro strode out of the room, and Maria followed him upstairs. To her surprise, he stepped through the servants' door, into the narrow back

corridor. Maria's eyes took a moment to adjust to the dim evening light coming through windows at each end of the long passage.

She bumped into Alessandro when he stopped in the middle of the corridor. He fumbled along the wall, and swore under his breath. After a long minute, she saw him remove a slice of stone. He pointed to the gap, and made way for her to look.

The block of stone had been hollowed out into a spyhole. Maria pressed her face to the wall and gazed through the tiny gap. She saw the visitors' apartment beyond, the familiar chairs and fireplace. The occupants were putting things in smooth grey cases—a spyglass, some books, a small sculpture of Christ.

And then she saw that the angels, alone in their room, had removed their veils. Each deformed face, blotched green and blue, had only a pit for a nose, and no chin at all. The brows bulged forward, with narrow slits for eyes.

Leprosy, thought Maria as she staggered away. She had never seen a leper, but had heard rumors of the hideous deformity it caused. Yet how could angels be diseased?

"They're not angels," she whispered.

"Of course not," said Alessandro. "But I'm curious to see whether the Chinese are really as yellow as they say." He stepped to the spyhole.

Moments later he fell back, his mouth hanging open and his face ashen with shock. "My God, they're not human. They're devils!" The slice of stone clattered from his hand to the floor. "Demons in the Palace! Go and fetch Father Niccolo."

Maria didn't move. Alessandro pushed her, saying, "Hurry up! We're in mortal peril of our souls. We need Father Niccolo to cast the demons out."

Maria's thoughts whirled. The creatures behind the wall were hideous, but were they demons? Could devils touch a statue of Jesus? Could demons heal her daughter?

If Father Niccolo cast them out, would her daughter lose the speech they had given?

In that moment, Maria knew she didn't care whether the visitors were angels or demons or Chinese. When Alessandro shoved her again, she pushed back with such force that he fell to the floor.

"Nobody is fetching Niccolo," she said, her voice husky with rage. "These foreigners healed my daughter. Niccolo wouldn't even pray for her. He said she was mute because she was born in sin—as if I could insist on marrying every drunken ambassador who grabbed my ass. As if a servant can say no!"

Alessandro said, "Do you want your daughter to grow up a witch? If devils touched her—"

"Better a witch who can talk than a servant who can't. And do you suddenly believe in witchcraft, after you sneered at toads and spells?"

"I believe in what I see—and I see demons."

The doctor began to struggle to his feet. Maria pushed him back down. They scuffled, Maria trying to prevent him crawling past. But Alessandro was far stronger. He landed a painful blow in her stomach, and inched down the corridor.



Maria grew desperate. She kicked Alessandro, then scrambled about on the floor, searching for the fallen slice of stone.

Alessandro stood up and rushed past her. Maria ran after him. As he opened the door to the stairway, she bludgeoned his head with the stone.

He fell like a broken puppet. Maria felt a stab of guilt, and she shoved her hand under his shirt, relieved to find his heart still beating. Panting with effort, she dragged Alessandro across the corridor into one of the empty staterooms, where no one would discover him for a while.

Then Maria, sick with worry, ran down to the basement. She found Cristina lying peacefully in bed. Her daughter smiled. The red spot on her throat had faded to a dull flush.

Was that a witch's mark? If they were demons, what else might they have done?

Maria tore the shift from her daughter's body. Cristina squirmed in protest. "Lie still," said Maria, "and let me look at you."

In the faint glow of the few lamps in the servants' quarters, Maria examined every inch of Cristina's flesh. Rumor said that Satan gave witches an extra nipple to feed their familiars. But Cristina still had only the two she was born with. Maria recognized every mole and freckle on her daughter's skin. Other than the mark on her throat—which looked like any ordinary bruise—nothing had changed.

Maria sighed with relief. "Lord, forgive me for doubting you," she said.

Cristina put her shift back on. She gazed inquiringly at her mother, but Maria didn't want to say what she had feared. Why frighten the child with silly talk of demons?

And yet—the thought wouldn't leave her mind. She remembered all the sermons she'd heard, all the talk of how devils could appear and tempt people into sin. Maybe they'd tempted Galileo into sin, and made the Church frown upon him.

She had to find out who'd cured her daughter. She had to know whether it was a tainted gift.

Maria returned to the spyhole upstairs. There she saw that the visitors had finished packing, and had donned their veils once more. They picked up their grey cases and left the apartment.

She walked to the servants' door, opened it a crack, and watched the robed figures descend the main stairs. She followed them at a cautious distance. To her surprise, they didn't head for any of the front doors that led onto the courtyard. Instead, they departed the Palace by the back, and entered the gardens.

Maria kept pace behind them. The evening had darkened into night, and low clouds covered the city. The strangers carried a lamp that showed them the path. Maria had rarely entered the gardens—chambermaids had no duties there, and servants were not allowed to loiter—so she watched where the figures walked, and tried to follow. Terraced lawns and flowerbeds descended the hillside. Maria stumbled down steps that she could barely see. The figures drew further ahead.

Their lamp dimmed. Ahead, Maria heard the sound of leaves rustling in the wind. The trees obscured her view. She rushed forward, trying to catch up, and fell painfully as she tripped over something in the dark. She had lost the path. The black night had swallowed her up.

Maria climbed to her feet, and trod more slowly and carefully. But



when she left the clump of trees, she saw only distant yellow specks, the lamps and candles in houses at the edge of the city. Somewhere down there lay the Porta Romana, the southern gate of Florence.

She couldn't see the robed visitors who had cured her daughter.

Maria sat down to rest on the grass, damp with evening dew. She felt no desire to rush back to the Palace. Indeed, after beating Alessandro senseless, there was no way she could return to her old life. Servants could not strike their masters like that.

But all over Florence, chamberpots needed emptying—all across Tuscany and the world. And when Cristina could speak, the promise of a better life lay somewhere ahead.

After a while, Maria saw a dazzling white light south of the city. It rose into the air, slowly at first. Then the bright starry light rushed up through the clouds and disappeared into the heavens.

Maria smiled. "So they *were* angels," she said. ○

## SCIENCE FICTION SUDOKU continued from page 37

**T**his month's second SF Sudoku is of intermediate difficulty and is solved using the letters EIMOPRSTW. Rearrange the following letters for a famous SF writer: E, I, M, O, P, R, S, T, and W.

	I	M	R					
	O					P	W	
				M	E			R
E		W			I		M	
		O	P		R	W		
	S		E			T		O
T			W	E				
	P	R					I	
					P	M	T	

Sudoku by Lee Martin.

# POST-SINGULAR

Rudy Rucker

Rudy Rucker's most recent nonfiction book was about the meaning of computation: *The Lifebox, the Seashell, and the Soul: What Gnarly Computation Taught Me About Ultimate Reality, the Meaning of Life, and How to Be Happy*; the paperback is out from Thunder's Mouth Press this fall. The author's latest SF novel is *Mathematicians in Love*, which gives life to some of his ideas about computation, not to mention parallel worlds, and toppling an evil government. It will be out from Tor Books later in the year. Rudy is currently working on a novel, *Postsingular*, which uses the current tale, as well as "Chu and the Nants" (*Asimov's*, June 2006), as back-story. He tells us he spends an inordinate amount of time writing and photographing for his blog: [www.rudyruicker.com/blog](http://www.rudyruicker.com/blog).

## 1.

The Singularity happened when, encouraged by his business backers, President Joe Doakes sent an eggcase of nants to Mars. Nants were self-reproducing nanomachines: solar-powered, networked, capable of gnat-like flight, and single-mindedly focused on transforming all available material into more nants. In a couple of years, the nants had eaten Mars, turning the red planet into a Dyson sphere of a duodecillion nanomachines, a three-millimeter-thick shell half a billion kilometers across, with Earth and the Sun trapped inside.

The stars were hidden by giant ads; in daytime the ads were a silvery background to the sky. Doakes's backers were well-pleased. And behind the scenes the nant swarm was solving a number of intractable problems in computer science, mathematical physics, and process design; these re-

sults were privily beamed to the nants' parent corporation, Nantel. But before Nantel could profit from the discoveries, the nants set to work chewing up Earth.

At the last possible moment, a disaffected Nantel engineer named Ond Lutter managed to throw the nants into reverse gear. The nants restored the sections of Earth they'd already eaten, reassembled Mars, and returned to their original eggcase—which was blessedly vaporized by a well-aimed Martian nuclear blast, courtesy of the Chinese Space Agency.

Public fury over Earth's near-demolition was such that President Doakes and his Vice President were impeached, convicted of treason, and executed by lethal injection. But Nantel fared better. Although three high-ranking execs were put to sleep like the President, the company itself entered bankruptcy to duck the lawsuits—and re-emerged as ExaExa, with the corporate motto, "Putting People First—Building Gaia's Mind."

For a while there it seemed as if humanity had nipped the Singularity in the bud. But then came the orphids.

## 2.

Jil and Craigor's home was a flat live-aboard scow called the *Merz Boat*. Propelled by cilia like a giant paramecium, the piezoplastic boat puttered around the shallow, turbid waters of the south San Francisco Bay. Craigor had bought the *Merz Boat* quite cheaply from an out-of-work exec during the chaos that followed the nant debacle. He'd renamed the boat in honor of one of his personal heroes, the Dadaist artist Kurt Schwitters who'd famously turned his house into an assemblage called the *Merz Bau*. "*Merz*" was Schwitters's made-up word meaning, according to Craigor, "gnarly stuff that I can get for free."

Jil was eye-catching: more than pretty, she moved with perfect grace. She had dark blunt-cut hair, a straight nose and a ready laugh. She'd been a good student: an English major with a minor in graphics and design, planning a career in advertising. But then in her early twenties she'd had a problem with pseudocoke abuse. Fortunately she'd made it into recovery before having the kids with Craigor, a son and a daughter, seven-year-old Momotaro and five-year-old Bixie. The four of them made a close-knit, happy family.

Although Jil was still hoping to make it as an ad designer, for now she was working as a virtual booth bunny for ExaExa, doing demos at online trade fairs, with her body motion-captured, tarted up, and fed to software developers. All her body joints were tagged with subcutaneous sensors. She'd gotten into the product-dancer thing back when her judgment had been impaired by pseudocoke. Dancing was easy money, and Jil had a gift for expressing herself in movement. Too bad the product-dancer audience consisted of slobbering nerds. But now she was getting close to landing an account with Yoon Shoon, a Korean self-configuring-athletic-shoe manufacturer. She'd already sold them a slogan: "Our goo grows on you."

Craigor was a California boy: handsome, good-humored, and not overly

ambitious. Comfortable in his own skin. He called himself an assemblag-ist sculptor, which meant that he was a packrat, loath to throw out anything. The vast surface area of the *Merz Boat* suited him. Pleasantly idle of a summer evening, he'd amuse himself by arranging his junk in fresh patterns on the elliptical pancake of their boat, and marking colored link-lines into the deck's computational plastic.

Craigor was also a kind of fisherman; he earned money by trapping iridescent Pharaoh cuttlefish, an invasive species native to the Mergui Archipelago of Burma, and now flourishing in the waters of the South Bay. The chunky three-kilogram cuttlefish brought in a good price apiece from AmphiVision, Inc., a San Jose company that used organic rhodopsin from cuttlefish chromatophores to dope the special video-displaying contact lenses known as webeyes. All the digirati were wearing webeyes to overlay heads-up computer displays upon their visual fields. Webeyes acted as cameras as well; you could transmit whatever you saw. Along with earbud speakers, throat mikes, and motion sensors, the webeyes were making cyberspace into an integral part of the natural world.

There weren't many other cuttlefishermen in the South Bay—the fishery was under a strict licensing program that Craigor had been grandfathered into when the rhodopsin market took off. Craigor had lucked into a good thing, and he was blessed with a knack for assembling fanciful traps that brought in steady catches of the wily Pharaoh cuttles.

To sweeten the take, Craigor even got a small bounty from the federal Aquatic Nuisance Species Task Force for each cuttlefish beak that he turned in. The Task Force involvement was, however, a mixed blessing. Craigor was supposed to file two separate electronic forms about each and every cuttlefish that he caught: one to the Department of the Interior and one to the Department of Commerce. The feds were hoping to gain control over the cuttles by figuring out the fine points of their life cycle. Being the laid-back kind of guy that he was, Craigor's reports had fallen so far behind that the feds were threatening to lift his cuttlefishing license.

### 3.

**O**ne Sunday afternoon, Ond Lutter, his wife Nektar and their high-functioning-autistic ten-year-old son Chu came over for a late afternoon cook-out on the *Merz Boat*. They were a less happy family than Jil's.

Jil had met Ond at work; he was the fired engineer who'd put a stop to the Nantel nants, now elevated to Chief Technical Officer of the reborn ExaExa. The awkward Ond thought Jil was cute—in a nice way—and the two little families had become friends. They got together nearly every weekend.

"It's peaceful here," said Ond, taking a long pull of his beer. He rarely drank, and even one bottle had a noticeable effect on him. "Like Eden." He leaned back in his white wickerwork rocker. No two chairs on the *Merz Boat* were the same.

"What are those cones?" asked Nektar. She was talking about the waist-high shiny ridged shapes that loosely ringed the area Craigor had

cleared out for today's little party. The kids were off at the other end of the boat, Momotaro showing Chu the latest junk and Bixie singing made-up songs that Chu tried to sing too.

"Ceramic jet-engine baffles," said Jil. "From the days before piezoplastic. Craigor got them off the back lot at Lockheed."

"The ridges were for reducing turbulence," said Craigor. "We sit in an island of serenity."

"You're a poet, Craigor," said Ond. The low sun illuminated his scalp through his thinning blonde hair. "It's good to have a friend like you. I have to confess that I brought along a big surprise. And I was just thinking—my new tech will solve your problems with generating those cuttlefish reports. It'll get your sculpture some publicity as well."

"Far be it from me to pry into Chief Engineer Ond's geeksome plans," said Craigor easily. "As for my diffuse but rewarding oeuvre—" He made an expansive gesture that encompassed the whole deck. "An open book. Unfortunately I'm too planktonic for fame. I transcend encapsulation."

"Planktonic?" said Jil, smiling at her raffish husband, always off in his own world.

"Planktonic sea creatures rarely swim," said Craigor. "Like cuttlefish, they go with the flow. Until something nearby catches their attention. And then—dart! Another masterpiece."

Just aft of the cleared area was Craigor's holding tank, an aquarium hand-caulked from car windshields, bubbling with air and containing a few dozen Pharaoh cuttlefish, their body-encircling fins undulating in an endless hula dance, their facial squid-bunches of tentacles gathered into demure sheaves, their yellow W-shaped pupils gazing out at their captors.

"They look so smart and so—doomed," said Nektar, regarding the bubbling tank. She had full lips and she wore her curly brown hair in a fat ponytail. "Like wizards on death row. They make me feel guilty about my webeyes."

"I had a dream about angels coming to set the cuttlefish free," said Craigor. "But it's hard to remember my dreams anymore. Bixie wakes us up so early." He gave his daughter a little pat. "Brat."

"Crackle of dawn," said Bixie.

"You finally got webeyes too?" said Jil to Nektar. "I love mine. But if I forget to turn them off before falling asleep—ugh. Spammers in my dreams, not angels. I won't let my kids have webeyes yet. Of course for Chu—" She broke off, not wanting to say the wrong thing.

"Webeyes are perfect for Chu," said Nektar. "You know how he loves machines. He and Ond are alike that way. Ond says he was autistic too when he was a boy. I'm the token normal in our family. As if." She blinked and stared off into the distance. "Mainly I got my webeyes for my job." Now that Chu was getting along pretty well in his school, beautiful Nektar had reentered the workforce as a cook in an upscale San Jose restaurant. "The main chef at Ririche talked me into it. Jose. He's been showing me the ropes. I can see all the orders, and track our supplies while I cook."

"And I showed her how to plug into what Chu's seeing," said Ond. "So she can keep a webeye on him. You never quite know what Chu will do. He's not hanging over the rail like last time, is he, Nektar?"

"You could watch him yourself," said Nektar with a slight edge in her voice. "If you must know, Chu's checking the positions of Craigor's things with his GPS, Momotaro's telling him where the newer things came from, and Bixie's hiding and jumping out at them. It must be nice to have kids that don't use digital devices to play." She produced a slender, hand-rolled, non-filter cigarette from her purse. "As long as the coast is clear, let's have a smoke. I got this number from Jose. He said it's genomically tweaked for guiltless euphoria—high nicotine and low carcinogens." Nektar gave a naughty smile. "Jose is so much fun." She lit the illegal tobacco.

"None for me," said Jil. "I cleaned up a few years back. I thought I told you?"

"Yeah," said Nektar, exhaling. "Did you have, like, a big after-school-special turning point?"

"Absolutely," said Jil. "I was ready to kill myself, and I walked into a church, and I noticed that in the stained glass it said: God. Is. Love. What a concept. I started loving myself and I got well."

"And then, the reward," said Craigor. "She meets me. It is written."

"I'll have a puff, Nektar," said Ond. "This might be the biggest day for me since we reversed the nants."

"You already said that this morning," said Nektar irritably. "Are you finally going to tell me what's up? Or does your own wife have to sign a freaking non-disclosure?"

"Ond's on a secret project for sure," said Jil, trying to smooth things over. "I went to ExaExa to dance a gig in their fab this week—I was wearing a transparent bunny suit—and all the geeks were at such a high vibrational level they were like blurs."

"What is a fab exactly?" asked Craigor.

"It's where they fabricate the chips," said Jil. "Most of the building is sealed off, with anything bigger than a carbon-dioxide molecule filtered out of the air. All these big hulking machines are in there turning out tiny precise objects. The machines reach all the way down to the molecular level—for nanotech." She fixed Ond with her bright gaze. "You're making nanobots again, aren't you Ond?"

Ond opened his mouth, but couldn't quite spit out his secret. "I'm gonna show you in a minute," he said, pinching out the tiny cigarette butt and pocketing it. "I'll drink another beer to get my nerve up. This is gonna be a very big deal."

Bixie came scampering back, her dark straight hair flopping around her face. "Chu made a list of what Daddy moved," she reported. "But I told Chu my Daddy can leave his toys wherever he likes." She hopped onto Jil's lap, cuddly as a rabbit, lively as a coiled spring. She resembled a small version of her mother.

"We await Comptroller Chu's report," said Craigor. He was busy with the coals in his fanciful grill, constructed from an old-timey metal auto fender.

Chu and Momotaro came pounding into the cleared area together. Momotaro thought Chu was great: an older boy who took him seriously.

"A cuttlefish disappeared!" announced Momotaro.

"First there were twenty-eight and then there were twenty-seven," said Chu. "I counted them on the way to the rear end of the boat, and I counted them again on the way to the front."

"Maybe the cuttle flew away," said Momotaro. He put his fingers up by his mouth and wiggled them, imitating a flying cuttlefish.

"Two hundred and seventy tentacles in the tank now," added Chu. "Other news. The Chinese gong has moved forty-four centimeters. Two bowling balls are in the horse trough, one purple and one pearly. The long orange line painted on the deck has seventeen squiggles. The windmill's wire goes to a string of thirty-six crab-shaped Christmas lights that don't work. The exercise bicycle is—"

"I'm going to put our meat on the grill now," Craigor told Chu. "Want to watch and make sure nothing touches your pork medallions?"

"Of course," said Chu. "But I'm not done listing the, uh,—" Bixie, still perched on her mother's lap, had just stuck out her tongue at Chu, which made Chu stumble uncertainly to a halt.

"Email me the list," said Craigor with a wink at Bixie. But then, seeing how crushed the boy was, he softened. "Oh, go ahead Chu, tell me now. And no more rude faces, Bixie. I'll keep cooking while I listen."

"Please don't cook any cuttlefish," said Chu.

"We aren't gonna bother those bad boys at all," said Craigor soothingly. "They're too valuable to eat. Hey, did you notice my stack of three fluorescent plastic car-tires?"

"Yes." Chu recited the rest of his list while Craigor set out the plates.

The four adults and three children ate their meal, enjoying the red and gold sunset. "So how is the cuttlefish biz?" Ond asked as they worked through the pan of tiramisu that Nektar had brought for dessert.

"The license thing is coming to a head," said Jil, looking worried. "Those damned forms. I tried to file them myself, but the feds' sites are buggy and crashing and losing our inputs. It's like they want us to fail."

"I used to think the feds micromanaged independent fishermen like me so that they could tell the public they're doing something about invasive species," said Craigor. "But now I think they want to drive me out of business so they can sell my license to a big company that makes campaign contributions."

"That's where my new tech comes in," said Ond. "We label the cuttlefish with radio-frequency tracking devices and let them report on themselves. Like bar-codes or RFIDs, but better."

"It's not like I get my hands on the cuttles until I actually trap them," said Craigor. "So how would I label them? They're smart enough that it'd actually be hard to trap the same one twice."

"What if the tags could *find* the cuttlefish?" said Ond. Pink and grinning, he glanced around the circle of faces, then reached into his pocket. "Introducing the orphids," he said, holding up a little transparent plastic vial. "My big surprise." Whatever was in the vial was too small to see with the naked eye, but the watchers' webeyes were sketching tiny balls of light inside the vial, little haloes around objects in rapid motion. "Orphids are to barcodes as velociraptors were to trilobites," said Ond. "The orphids are gonna change the world."

"Not another nanomachine release!" exclaimed Nektar, jumping to her feet. "You promised never again, Ond!"

"They're not nants never," said pear-shaped Ond, his tongue a bit thick with the beer and tobacco. "Orphids good, nants bad. I realize now that it's got to happen, Nektar. I want to get in first and do it right. Orphids self-re-



produce using nothing but dust floating in the air. They're not destructive. Orphids are territorial; they keep a certain distance from each other. They'll cover Earth's surface, yes, but only down to one or two orphids per square millimeter. They're like little surveyors; they make meshes on things. They'll double their numbers every few minutes at first, slowing down to maybe one doubling every half hour, and after a day, the population will plateau and stop growing. You'll see, like, fifty thousand of them on this chair and a sextillion orphids on Earth's whole surface. From then on, they only reproduce enough to maintain that same density. You might say the orphids have a conscience, a desire to protect the environment. They'll actually hunt down and eradicate any rival nanomachines that anyone tries to unleash."

"Sell it, Ond," said Craigor.

"Orphids use quantum computing; they propel themselves with electrostatic fields; they understand natural language; and of course they're networked," continued Ond. "The orphids will communicate with us much better than the nants. As the orphidnet emerges, we'll get intelligence amplification and superhuman AI."

"The secret ExaExa project," mused Jil, watching the darting dots of light in the vial. "You've been designing the orphids all along?"

"In a way, the nants designed them," said Ond. "Before I rolled back the nants, they sent Nantel some unbelievable code. Coherent quantum states, human language comprehension, autocatalytic morphogenesis, a layered neural net architecture for evolvable AI—the nants nailed all the hard problems."

"But Ond—" said Nektar in a pleading tone.

"We've been testing the orphids for the last year to make sure there won't be another disaster when we release them," said Ond, raising his voice to drown out his wife. "And now even though we're satisfied that it's all good, the execs won't pull the trigger. They say they don't want to get the death penalty like Joe Doakes. Of course Doakes's oil-biz backers saved off his wetware and software, but never mind about that. The real issue is that ExaExa can't figure out a way to make a profit. So there's been a lot of company politics; a lot of in-fighting. If we do it my way, the orphids will be autonomous, incorruptible, cost-free. In the long run, that's the right path; profits will emerge. Not everyone sees that, but one of the factions has given me informal approval to go ahead."

"Ha," said Nektar. "You're the faction. You want to start the same nightmare all over again!" She tried to snatch the vial from Ond's hands, but he kept it out of her reach. Nektar's picture-perfect face was distorted by unhappiness and anger. Her voice grew louder. "Mindless machines eating everything!"

"Mommy, don't yell!" shrieked Chu.

"Chill, Nektar," said Ond, fending her off with a lowered shoulder. "Where's your nicotine euphoria? Believe me, these little fellows aren't mindless. An individual orphid is roughly as smart as a talking dog. He has a petabyte of memory and he crunches at a petaflop rate. One can converse with him quite well. Watch and listen." He said a string of numbers—an IP address—and an orphid interface appeared within the webeyes of Chu and the four adults.

For now the orphids were presenting themselves as cute little cartoon faces, maybe a hundred of them, stylized yellow Smileys with pink dots on their cheeks and gossamer wings coming out the sides of their heads.

"Hello," said Jil. Bixie looked up curiously at her mother. To Jil, her daughter's face looked ineffably sweet and vulnerable behind the ranks of dancing orphids.

"Hello, Jil," sang the orphids. Chu and the adults could hear them in their earbuds.

"I want you fellows to find all the cuttlefish in the South Bay," Ond told the orphids. "Ride them and send a steady stream of telemetry data to, uh, [ftp.exaexa.org/merzboat](http://ftp.exaexa.org/merzboat)."

"Can you show us a real cuttlefish?" the orphids asked. Their massed voices were like an insect choir, the individual voices slightly off pitch from each other.

"These are cuttlefish," Ond instructed the orphids, pointing to the tank. "Settle on them, and we'll release them into the bay. Okay, Craigor?"

"No way," said Craigor. "These Pharaohs took me four days to catch. Leave them alone, Ond."

"They're my Daddy's cuttlefish," echoed Momotaro.

"I'll buy them from you," said Ond, his eyes glowing. "Market rate. And we'll let some orphids loose on your boat, too. They can map out your stuff, network it, make it interactive. That's where the publicity for your sculpture comes in. Your assemblages will be little societies. The AI hook makes them hot."

"Market rate," mused Craigor. "Okay, sure." He named a figure and Ond instantly transferred the amount. "All right!" said Craigor. "Wiretap those Pharaohs and spring them from—what Nektar said. Death row."

"We're doomed if Ond opens the vial," said Nektar, angrily lunging at her husband. Ond danced away from his wife, keeping the orphids out of her reach, his grin a tense rictus. Chu was screaming again.

"Stop it, Ond!" exclaimed Jil. Things were spinning out of control. "I don't want your orphids on my boat. I don't want them on my kids."

"They're harmless," said Ond. "I guarantee it. And, I'm telling you, this is gonna happen anyway. I just thought it would be fun to do my big release in front of you guys. Be a sport, Jil. Hey, listen up, orphids, you're our friends, aren't you?"

"Yes, Ond, yes," chorused the orphids. The discordant voices overlapped, making tiny, wavering beats.

"That was very nice of you to think of us, Ond," said Jil carefully. "But I think you better take your family home now. They're upset and you're not yourself. Maybe you had a little too much beer. Put the orphids away."

"I think tracking the cuttles is a great idea," put in Craigor, half a step behind Jil as usual. "And tagging my stuff is good, too. My assemblages can wake up and think!"

"Thank you, Craigor," said Ond. He turned clumsily towards the cuttlefish tank. This time he didn't see Nektar coming. She rushed him from behind, a beer bottle clutched in her hand, and she struck his wrist so hard that the vial of orphids flew free. The chaotically glowing jar rolled across the deck, past Jil and Bixie, past Craigor and Momotaro. Chu

caught up with the vial and, screaming like a banshee, wrenched it open and threw it high into the air on a trajectory towards the tank.

"Stop the yelling!" yelled Chu. Perhaps he was addressing the orphids. "Make everything tidy!"

Through their webeyes, Chu and the adults saw illuminated orphid-dots spiraling out of the vial in mid-air, the paths forking and splitting in two. And now the webeyes overlaid the scene with a tessellated grid showing each orphid's location. Some were zooming towards the cuttles, but others were homing in on the curios crowding the aft. Additional view-windows kept popping up as the nanomachines multiplied.

Jil hugged Bixie to her chest, covering the little girl's dark cap of hair with her hands as if to keep the orphids off her. Ond bent forward, rubbing his wrist. Perhaps it was broken. Craigor stared into the tank, using his webeyes to watch the orphids settle in. Momotaro stood at his father's side. Chu lay on the deck, tensely staring into the sky, soaking up orphid info from his webeyes. For her part, Nektar was fumbling to remove the special contact lenses from her eyes.

#### 4.

"Do at least you have an 'undo' signal for the orphids?" Nektar asked Ond. "Like you did for the nants?" Only a minute had elapsed, but the world felt different. Human history had rattled past a major switch point.

"Quantum computations aren't reversible," said Ond. "Not when the world is all the time collapsing states to get information out of the orphids. Never mind about that. I think I might need a doctor."

"Tell your precious orphids to fix your wrist," snapped Nektar.

"Good idea!" said Ond, holding out his arm. "Burrow in," he said to the orphids. "Patch up the crack—there's not a crack? Well, loosen up the clots for me anyway. Ah, that feels better. Good to go."

"I want you off our boat," repeated Jil. "You've done what you came to do. And for God's sake don't spread the word that you did your release right here. I don't want cops and reporters trampling us."

"Sorry, Jil," replied Ond. "It's historic. I've been vlogging this for the record. In fact it's already on the Web. Wireless, you know."

Craigor hustled Ond, Nektar, and Chu onto one of the *Merz Boat's* piezoplastic dinghies, which would ferry them to the Alviso dock and return on its own. The dinghy was like an oval jellyfish with a low rim around its edge. It twinkled with orphid lights.

"Watch me on the news!" called Ond from the dinghy. Jil lost her cool enough to give him the finger.

"Are we right to just sit around?" Jil asked Craigor next. "Shouldn't we be calling for an emergency environmental clean-up? I feel itchy all over."

"The feds would trash our boat and it wouldn't change anything," said Craigor. "The genie's out of the bottle for good." He glanced around, scanning their surroundings with his webeyes. "Those little guys are reproducing so fast. I see thousands of them—each of them marked by a dot of

light. They're mellow, don't you think? Look, I might as well put those cuttlefish in the bay. I mean, Ond already paid me for them. And there's orphids all over the place anyway. What the hey, free the wizards." He got busy with his scoop net.

Jil's webeye grid of orphid viewpoints had become a disc-like Escher tessellation that was thousands of cells wide, with the central cells big, the outer cells tiny, and ever more new cells growing along the rim. The massed sound of so many orphids was all but unbearable.

"I hate their voices," said Jil, half to herself.

"Is this better?" came a smooth baritone voice from the orphids. The many had become one.

"You actually do understand us?" Jil asked the orphids. A few of the orphid's-eye images slewed around as Craigor carried his first dripping net of cuttles to the boat's low gunnel and lowered them to the bay waters.

"We understand you a little bit," said the voice of the orphids. "And we'll get better. We wish the best for you, Craigor, Momotaro, and Bixie. We'll always be grateful to you. We'll remember your *Merz Boat* as our garden of Eden, our Alamogordo test site. Don't be scared of us."

"I'll try," said Jil. In the unadorned natural world, Momotaro and Bixie were cheering and laughing to see the freed cuttlefish jetting about in the shallow waters near the boat.

"We're not gonna be setting free the Pharaohs every day," Craigor cautioned the kids. He smiled and dipped his net into the holding tank again. "Hey, Jil, I heard what the orphids said to you. Maybe they're gonna be okay."

"Maybe," said Jil, letting out a deep, shaky sigh. She poured herself a cup of hot tea. "Look at my cup," she observed. "It's crawling with them. An orphid every millimeter. They're like some—some endlessly ramifying ideal language that wants to define a word for every single part of every worldly thing. A thicket of metalanguage setting the namers at an ever-greater remove from the named." Jil's hand twitched; some of her tea spilled onto the deck. "Now they're mapping the puddle splash, bringing it under control, normalizing it into their bullshit consensus reality. Our world's being nibbled to death by nanoducks, Craigor. We're nanofucked."

"Profound," said Craigor. "Maybe we can collaborate on a show. A Web page where users find new arrangements for the *Merz Boat* inventory, and if they transfer a payment, I physically lug the objects into the new positions. And the orphids figure out the shortest paths. Or, wait, we get some piezoplastic sluggies to do the heavy lifting, and the orphids can guide them. I'll just work on bringing in more great stuff; I'll be this lovable sage and the *Merz Boat* can be, like, my physical blog. And you can dance and be beautiful, at the same time intoning heavy philosophical raps to give our piece some heft."

"Men are immediately going to begin using the orphids to look at the exact intimate details of women's bodies," said Jil with a shudder. "Can you imagine? Ugh. No publicity for me, thanks."

Craigor spoke no response to this. He lowered the rest of the Pharaohs into the bay. "A fisher of Merz, a fisher of men. Peace, dear cuttlefish."

The empty dinghy swam back towards them, orphid-lit like a ferry, nos-

ing up to its mooring on the side of the *Merz Boat*. Spooked by the dinghy, the skittish cuttlefish maneuvered and changed colors for safety. Their skins were thoroughly bespeckled with orphid dots outlining their bodies' voluptuous contours.

"Voluptuous?" said Jil.

"I didn't say that out loud, did I?" said Craigor. "Jeez, you're picking up my subvocal thoughts. This orphidnet link is like telepathy. I better be a good boy. There's meshes all over you, Jil. In case you didn't know."

"Already?" said Jil, holding out her hand. She'd been blocking out perceiving the changes to herself and her family, but now she let herself see the dots on her fingers, dots on her palms, dots all over her skin. The glowing vertices were connected by faint lines with the lines forming triangles. A fine mesh of small triangles covered Jil's knuckles; a coarser mesh spanned the back of her hand. The computational orphidnet was going to have realtime articulated models of everything and everyone—including Jil's kids.

Yes, the orphids had peppered Momotaro and Bixie like chicken pox. Oh, this was happening way too fast. God damn that Ond. Jil knelt beside Bixie, trying to wipe one of the dots off her little girl's round cheek. But it wouldn't come loose. By way of explanation, the orphids showed her a zoomed-in schematic image of a knot of long-chain molecules: an individual orphid, far too tiny to dislodge.

"We're like cuttlefish in a virtual net," said Craigor, shaking his head. He sat down next to Jil on the deck, each of them holding one of the kids.

"Look out there," said Jil, pointing.

The orphids were twinkling in the bay waters, on the freeways and buildings of San Jose, and even on the foothills and mountains surrounding the bay. Jil and Craigor hadn't really believed it when Ond had said it would only take a day for the orphids to cover Earth. But everything as far as the eye could see was already wrapped in meshes of orphid dots.

"I don't know whether to shit or go snowblind," said Craigor, forcing a hick chuckle. "Where does that expression come from? Like, why those two particular options?"

"I'm so scared," said Jil in a tight voice.

"How about the way Ond and Nektar were fighting?" said Craigor, skating around the subject. "What a pair of lovebirds, hey?"

"I guess Chu puts them under a lot of stress," said Jil weakly.

"Yeah," said Craigor, patting Jil's cheek. "I enjoy Ond, but, please, don't be a geek *and* a drunken maniac. And this is the same guy who saved Earth three years ago. Weird. Did you notice the way Nektar was talking about her new friend Jose? I see an affair taking shape. Adultery will get even harder, with orphids tracking every inch of everyone's body. Not that you and I have to worry."

The world as they'd known it was over, but Craigor was gossiping as if nothing about human nature would really change. "You okay?" he said, wrapping his arm around Jil.

"Oh, Craigor," said Jil, leaning her head on her husband's familiar shoulder. Drained by shock and fear, the two of them dozed off there, sitting on the soft deck with the kids.

## 5.

After the orphids got loose on the *Merz Boat*, Jil yelled and Craigor made Chu's family get in a soft dinghy and leave. Chu would have liked to bring Bixie home with them; she was such a cutie-pie.

The orphidnet hookup got better and better all the way home. Chu realized that, with his eyes closed, he could still see Bixie there on her parents' scow. Having orphids blanket the world made it so your eyes were everywhere. Chu liked seeing with his eyes closed.

Before they got home, Chu saw police waiting at their house. He told Ond, but Ond said he didn't mind. When they got out of the car, one of the policemen touched Chu, and Chu screamed and acted crazy so they'd leave him alone. Chu and Nektar went in the house and Ond got in the police car. Nektar was mad, she said the Pigs could keep Ond for all she cared. She said Chu could watch video, and then she went and lay down on her bed with her pillow over her head like she always did when she was upset.

Chu didn't bother with the video, he just lay on his back and explored the orphidnet. He saw Ond in the police car. He saw Bixie and Momotaro playing on the *Merz Boat*. And he swam around inside one of the cuttlefish Craigor had thrown back into the bay.

It was both dreadful and fascinating to be a cuttlefish, especially when Chu's host began rubbing up against another cuttlefish, tangling his tentacles with hers. The cuttlefish were doing reproduction. Chu's cuttlefish girlfriend squirted out some eggs, and Chu's heart beat really fast. Then he and his cuttlefish girlfriend started eating algae off the rocks, scraping it up with their beaks. And then, all of a sudden, Chu's cuttlefish girlfriend was gone. He jetted about looking for her, to no avail.

In the real world, Chu's arms were hurting. Nektar was shaking him and asking him if he were having a fit. She was angry. Chu realized he'd been beating his arms on the floor to imitate the cuttlefish's tentacles, and chewing on the rug with his teeth. He'd wet his pants. He felt silly. Nektar helped him into some dry clothes. Chu promised he wouldn't be a cuttlefish anymore, and Nektar went back to her room.

Nektar felt guilty and bad about yelling at Chu for wetting his pants again. Her family life was an endless round of lose-lose. She lay back down on her bed, closed her eyes and watched Ond arriving at the jail. But then she got distracted.

Thanks to the orphidnet, she could see the insides of all the neighbors' houses. She'd always wondered about that crabby Stephanie Cally across the street; was she on meds or what? With the slightest touch of will, Nektar was able to examine Stephanie's orphid-outlined medicine cabinet, and yes, it was loaded with prescription pseudocoke. As long as Nektar was there, she looked at Stephanie's jewelry, her shoes, and her surprisingly large array of sex-toys.

The thought of sex turned Nektar's thoughts to her cute new friend Jose. She sent a virtual copy of herself to his apartment on the second floor of a retrofitted yellow-brick building on Santa Clara Avenue, right across the street from Ririche, the restaurant where they worked together.



Virtual Nektar flew in through Jose's window; he was lying on his bed in his underwear looking totally hot. The room was smoky; Jose's eyes were closed. He was in the orphidnet, too. Nektar followed a golden thread leading from Jose's body to his mental location; she came up behind a wireframe outline of him and said, "Hi."

He turned; his skin filled in; his mouth opened in a grin. For the first time, they kissed.

They were in, like, a temple. A domed round room with bouncy Buddhist-looking monks against the walls. The little monks weren't human, they were orphidnet agents, wearing shallow, pointed coolie hats decorated with blinking blue and green eyes. The monk AIs were chanting.

Humans were in the temple too, orphidnet users come here to adore the new beings they were seeing in their minds. And in the middle of the room was a round altar holding a shape of light, a glowing woman. She was soaking up the worship. She said she was an angel.

## 6.

"I see colored dots on everything," Momotaro told his sister. Night had fallen. "Those are the orphids the grown-ups were arguing about."

"Orpid," said Bixie, repeatedly touching her knee with her finger. "Orpid, orpid, orpid, orpid. Do they bite?"

"No," said Momotaro. "They're talking to us, Bixie. Can you hear?"

"Be quiet, orpid," said Bixie. "You sound like teachers. Blah blah blah."

"Blah blah blah," echoed Momotaro, laughing. "Can you show me the *Space Pirates* online video game, orphids? Oh, yeah, that's neat. Bang! Whoosh! Budda-budda!" He aimed his fingers, shooting at toons he was seeing in the air.

"I want to see the *Spice Dolls* show," said Bixie. "Ooo, there's Kayla Kool and Fancy Feather. Hi, dollies. Wanna have a tea party?"

Waking up to the kids' chatter, Craigor understood that they were all fully immersed in the Web now. The orphids had learned to directly interface with people's bodies and brains. He popped out his contact lenses and removed his earbud speakers and throat mike. Jil shifted, rubbed her face, opened her eyes.

"Check it out, Jil, no more Web hardware," said Craigor. "Nice work, orphids. And how are you getting video into my head? Magnetic vortices in the occipital lobes, you say? You're like smart lice. Wavy. I can turn off your feed into my head, I hope? Oh, I see, like that. But leave it on for now, I'm loving it. Behold the new orphidnet interface, Jil."

"Oh God, does this have to be real?" mumbled Jil. "I feel dizzy. No more hardware, you say? Oh, I don't like the kids having so much access." She sat up and began stripping off her own Web gear. "Too much video turns kids into zombies, Craigor. I feel stupid for having all those joint sensors under my skin."

"Fa-toom!" said Momotaro, cradling an invisible rocket-launcher.

"More tea, Fancy?" said Bixie, holding an unseen teapot.



With a slight twitch of will, Jil and Craigor could tune their viewpoints to the virtual worlds the kids were playing in. Really quite harmless. And the orphid-beamed visual images were of very good quality. The webeye overlays had always been a little fuzzy and headachy.

"Thus ends the market for my cuttlefish," said Craigor. "Well, I never did feel that good about putting the Pharaohs on death row."

"But you had fun making the traps," said Jil. "It was a skill. Everything's going to be so different now. Will anyone do anything anymore? Everyone will be terminally distracted."

"It'll be easy to catch fish to eat," said Craigor. "I'll always know where they are. I can see their meshes under the boat right now. Some rockfish and a salmon."

"Yeah, but what if the fish are watching *you*? And who'll grow rice and potatoes?"

"Hey, I can always outsmart a fish," said Craigor. "As far as work goes, I bet orphid-controlled piezoplastic sluggie bots can do the chores. But people will still do some labor anyway—for exercise."

"Karma yoga," said Jil. "Hey, orphids, can you stop displaying all those triumphant halo dots? They bother me; it's like having to see every single germ you come across. That's better. Now, listen up, kids, Mommy and Daddy don't want you playing computer games all day long."

"Leave them alone for now, Mother Hen," said Craigor. "Let's check out the news."

The news was all about the orphids, of course. ExaExa was blaming Ond; he was in police custody now. ExaExa said the orphid release had taken place on a fishing scow named *Merz Boat* in the South Bay, and here were some pictures.

Cursing, Jil and Craigor glanced up to see buzzing dragonfly cameras against the night sky, the cameras visible by their glowing infrared eyes.

"At least they're not spraying solvents on us," said Craigor.

"The authorities considered that," said the baritone orphidnet voice in their heads. "But we orphids have already blanketed the whole West Coast. And great numbers of us are traveling overseas in the jet streams. It's way too late to disinfect the *Merz Boat*." A second later, the newscaster echoed the same words.

The news imagery segued to Ond, giving a press conference on the steps of the San Jose jail to a crowd of reporters and a hostile mob. To satisfy the public's need to know more about the ongoing events, the sheriff was letting Ond talk for as long as he liked, lit by an arch of glo-lights.

## 7.

Ond was verbose, geekily, defiant. The beer and tobacco had worn off. He was speaking clearly, selling the notion of the orphidnet.

"What with the petabyte and petaflop capacity of each orphid, the full sextillion-strong orphidnet will boast an ubbabyte of memory being processed at an ubbaflow rate—ubba meaning ten to the thirty-sixth pow-

er," said Ond to the crowd by the jailhouse steps, relishing the chance to inflict techie jargon on them. "The orphidnet's total power will thus be the square of an individual human's exabyte exaflop level. My former company's name was well-chosen: ExaExa. The orphidnet has the computational clout that you'd get from replacing each person by the entire population of Earth, and having all those people thinking together."

"How will the orphidnet impact the average citizen?" asked a reporter.

"Dive in and find out," urged Ond. "The orphidnet is all around. Anyone can dip into it at any time. It'll be teeming with artificial intelligences soon, and I'm predicting they'll like helping people. Why wouldn't they? People are interesting and fun."

"What about the less-privileged people who don't have specialized Web-access gear?"

"The orphids are the interface," said Ond. "Nobody needs hardware anymore. We're putting people first and building Gaia's mind."

"That's the ExaExa slogan," remarked another reporter. "But they fired you and disavowed responsibility for your actions."

"I've been fired before," said Ond. "It doesn't matter. ExaExa's real problem with me was that I released the orphids before they could figure out a way to charge for orphidnet access. But it's gonna be free. And, listen to me, listen. The orphids are our friends. They're the best nanotechnology we're going to get. I did a proactive release while there was still a chance of getting it right."

"How soon do you expect to be freed from prison?"

"Right now," said Ond. "I wouldn't be safe in jail." Plugged into the orphidnet as he was, with a full awareness of the exact position of everyone's limbs, and with the emerging orphidnet AI helping him, Ond was able to simply walk off through the crowd.

In the crowd were some very angry people who truly wished Ond harm. After all, he'd forced Earth away from her old state; single-handedly he'd made the decision to change everyone's lives—possibly forever. Ond was in very real danger of being stabbed, beaten to death, or hung from a lamppost.

But whenever someone reached for him, he was just out of their grasp. For once in his life he was nimble and graceful. Perhaps if the others had been so keenly tuned into the orphidnet as Ond, they could have caught him. But probably not. The orphids were, after all, quite fond of Ond.

A grinning guy at the back of the crowd gave Ond a bicycle; Ond recognized him as a friend, a fellow nanotech enthusiast named Jeff Rojas. Ond mounted Jeff's bike and disappeared from the view of the still-coagulating lynch-mob, cutting through the exact right dark alleys to avoid the pursuing cars, though not quite able to elude the dragonfly cameras.

Alone on the dark side-streets of San Jose, Ond asked the orphids to disable all the dragonfly cameras following him. The devices clattered to the street like dead sparrows. Next Ond had the orphids systematically change every existing reference to his home's address. Done.

But when he asked the orphids to make him invisible on the orphidnet, they balked. Yes, they would stop broadcasting his name, but the integrity of the world-spanning mesh of orphids was absolutely inviolable. The

orphids reminded Ond of a Nantel design meeting where he himself had altered the orphid operating system to include this very principle of In-corrutable Ubiquity.

Before long, people would be figuring out how to track Ond in real time. And by dawn there'd be no safe place on Earth for him.

## 8.

**C**hu lay on the rug, careful not to touch the wet spots he'd made. He was mad at Nektar for yelling at him.

Eyes closed, he was studying the new living things in the orphidnet: shiny disks whose edges bent under and curled up, with short thick stalks under their disks. Virtual mushrooms! Each mushroom had six or seven eyes on top, and the fatter mushrooms had baby mushrooms growing out of their sides. Some were boys and some were girls. They were cute and friendly—and glad to talk to Chu. When he asked where they came from, they said they were emergent orphidnet AIs, and that people's thoughts were their favorite thing to look at. They spoke really well, like regular people, in a way—although their thoughts came across in fatter chunks than just sentences and words.

Chu steered the conversation around to cuttlefish. One of the cartoony mushrooms said "Aha," and he showed Chu the cuttle-data flowing to [ftp.exaexa.org/merzboat](http://ftp.exaexa.org/merzboat). Chu decided to analyze the data himself, with the orphidnet AIs helping him.

Pretty soon he noticed something interesting about the cuttlefish. Every so often, one of them would totally disappear. And occasionally one of the cuttlefish would pop back from the mysterious nowhere.

Chu wondered how this could be. One of the mushroom AIs obligingly did a quick search of all the science papers in the world, and found a theory that there's another world parallel to ours, and that objects can quantum-tunnel back and forth, thus seeming to disappear and reappear.

"But when I set something down it always stays put," said Chu.

"People collapse the quantum states of things they look at," said the mushroom AI, wobbling the cap of her head. "The watched pot never boils. Objects stay put in the presence of a classical observer."

"Sometimes I do lose things," allowed Chu. "I guess they could disappear when I look away."

"When things are on their own, they can sneak and quantum-tunnel to the other world," agreed the mushroom. "Or maybe someone from the other world reaches over here to grab them."

"People in the other world are taking our cuttlefish?" said Chu. "But we're using the orphids to watch the cuttlefish all the time. So they should stay put."

"Orphids are quantum computers. They don't *observe*; they *entangle*. An orphid isn't like some bossy schoolmarm who keeps everyone in their seats until she looks away. It's perfectly possible for an orphid-tagged cuttlefish to quantum-tunnel to a world on a parallel hypersheet."

"What's the name of the other world?" asked Chu.

"What would you like to call it?" asked the mushroom. "You're the one discovering it."

"Let's call it the Mirrorworld," said Chu. "Can we see a Mirrorworld person grabbing a cuttlefish?"

"Let's try," said the mushroom. "Aha." A moment later she was showing Chu some shiny figures like people made of light. "They're popping in and out of our world all the time!" exclaimed the mushroom. "And our good, smart, quantum-computing orphids are landing on them. No more sneaking around. Look, look, there's a Mirrorworlder taking a cuttlefish! They're having a fad for cuttlefish. It's lucky we looked at the cuttlefish data stream."

"My good idea," said Chu.

The orphidnet was showing him a grid of scenes in which the glowing figures capered about, grabbed cuttlefish, flew through earth and water, or displayed themselves to little groups of worshipful virtual humans. Chu glimpsed his mother in one of these worship groups, but then she was gone.

Chu watched the worship group a bit longer anyway. The Mirrorworlder in the center was like a woman of smooth light; she was preaching about how great she was; she said was an angel. Noticing Chu peeking at her, she pointed at him, which made him uneasy. He pulled away, although he would have liked to have seen where his mother had gone.

"The Mirrorworlders have always been around," said the smart mushroom, reporting more info from her data-mining. "People have never been sure if they're real; they called them elves or fairies or demons or spirits or other things. Mostly they called them angels. Mirrorworlders usually disappear if you watch them closely—or if you ask them a lot of questions. It decoheres them. But thanks to our quantum-computing orphids, the orphidnet can show the angels without melting them away."

"Can I go to the Mirrorworld and visit?" asked Chu. That would teach Nektar a lesson for yelling at him about wetting his pants while he was being a cuttlefish. He'd run away to another world.

"Maybe," said the smart mushroom. "Traveling to the Mirrorworld would be an—encryption problem. It's something you'd do with your own mind. Like what you call teleportation? You get your mind into a special state and encrypt yourself into a superposition capable of tunneling to the Mirrorworld."

"Encryption!" exclaimed Chu. "I like breaking codes. Tell me more."

"To travel between the two worlds, a Mirrorworlder turns off self-observation and spreads out into an ambiguous superposed state, and then she observes herself in such a way so as to collapse down into the Mirrorworld or into our world."

"What part of that is encryption?" asked Chu.

"The encryption lies in the way in which the Mirrorworlder does the self-observation," said the mushroom. "It's a quantum-mechanical operator based on a specific numerical pattern. The encryption code."

"Goody," said Chu. "Let's figure out the code right now. We'll use a timing channel attack."

"It's fun working with you," said the mushroom.

Ond took a circuitous route towards his house in the leafy Rose Garden district of San Jose. Whenever his enemies got too close, the orphids would warn him and he'd make another detour.

Meanwhile the new world of the orphidnet was opening up around him. Every word, thought or feeling brought along a rich association of footnotes and commentary. He could see, after a fashion, with his eyes closed. Every single object was physically modeled in the orphidnet: not just the road around him, but the insides of the houses, the people inside them, the contents of the people's pockets, and their bodies under their clothes.

Ond wasn't alone in the orphidnet. There were other people, quite a few of them, many wanting to harangue, threaten, interview, or congratulate him. And, just as Ond had hoped, artificial intelligences were emerging in the orphidnet as spontaneously as von Karman vortex streets of eddies in a brook, as naturally as three-dimensional Belusouv-Zhabotinsky scrolls in an excitable chemical medium. Maybe he'd call them beezies.

The beezies were talking to him, offering their information services. They wanted to share whatever intellectual adventures Ond could cook up. The scroll-shaped AIs looked like colored jellyfish and they spoke in compound glyphs that Ond's brain turned into words.

As he rode the bicycle and dodged his pursuers, Ond began organizing a workspace for himself in the orphidnet. His self-image was like a tree trunk with his thoughts branching off it. With the orphidnet agents helping him, he effortlessly combined all his digital documents, emails, and blogs into a single lifebox file that could automatically answer the questions people were asking him. And as he encountered people and AIs, he put links to them on his lifebox—like hanging ornaments on a Christmas tree.

Passing the Rosicrucian Egyptian museum a mile from his house, it occurred to Ond to see how things were going at home. It would be horrible if his enemies got there before him. Thank God the orphids had hidden his real address.

In his mind's eye, Ond saw his family in the orphidnet. Nektar was lying on their bed—sulking? No, a little probing showed that she too was in the orphidnet, doing something with her friend Jose from work. Ond didn't like seeing his wife with the swarthy, virile Jose. Nektar and Jose were attending some kind of virtual gathering, an impromptu religious service with a choir of orphids surrounding a luminous woman-like form upon an altar. The glowing being was definitely conscious, but she seemed neither like a human nor like an orphidnet AI. A third kind of mind? Other, similar, bright forms lay in every direction, out on the fringes of his thoughts—

Just then three virtual humans plowed into Ond's lifebox tree, distracting him. The first two wanted to kill him, but the third was his scientist-friend Mitch from MIT, already in the orphidnet from the East Coast. Ond had an intense and rewarding chat with Mitch; bandwidth was much higher in the orphidnet than in normal human conversation. Mitch formulated a theory about how the emerging orphidnet minds would scale up. Quite effortlessly, Ond and Mitch set some obliging or-

phidnet agents in motion to gather data to test Mitch's thesis—and awaited the results.

10.

Nektar didn't like the so-called angel at the center of the virtual temple where she'd found Jose. She'd never liked religion. Her mother had given the family's savings to a TV evangelist.

The angel was saying that she and her race were like gods compared to humans, and that we should be grateful to them. Same old line you always heard in church. Nektar figured these angels were just some kind of aliens or AIs. The angel could hear Nektar thinking this, but the angel wasn't mad—she thought Nektar was funny.

"Take your friend and do what you will, little doubter," said the angel, sending a shower of sparks that settled down onto Nektar and Jose like pixie dust. "All is permitted in the new world."

The sparks energized Jose; he stopped staring at the angel and tugged Nektar into a side room whose walls were covered by special marble slabs which were patterned in slowly flowing scrolls and swirls. Nektar and Jose laid down and made love. It was over too soon, like a wet dream.

The marble room morphed into Jose's apartment. The real Jose was sitting up, eyes open, trying to keep talking to Nektar. Jose was puzzled why Nektar wasn't actually there. He began freaking out. He couldn't remember things right. He said now that he'd seen an angel, maybe he should kill himself and go to heaven for good. Nektar told him to please wait, she was going to come there in the flesh, and that he hadn't felt anything like the real heaven yet.

And then she too was sitting up, eyes open, alone in her bedroom. She couldn't remember all the details of what had just happened. But she knew two things. She needed to go be with Jose in his apartment on Santa Clara Avenue. And she needed to leave Ond forever. She would never forgive him for ruining the cozy, womanly world and making life into a giant computer game. Quickly she packed a suitcase with her essentials. She felt odd and remote, as if her head were inside a glass bubble. She didn't want to face what she was about to do. Better to think of Jose.

Jose wasn't a world-wrecker. She could save him; together they could make a new life. Why had he wanted to kill himself just now? A strong, sweet man like that. Nektar shook her head, feeling that same mixture of tenderness and contempt that she always felt when confronted by men's wild, unrealistic ideas. She'd give Jose something to live for. He'd appreciate her. Ond wouldn't miss her one bit.

But, oh, oh, oh, what about Chu? Leaving her bedroom, Nektar regarded her son, lying on the rug. He wasn't trembling anymore; he looked content, his eyes closed, his lips moving. The orphidnet was catnip for him. If she interrupted him, he'd probably have a tantrum. Was it really possible to leave him here?

She leaned close to kiss Chu goodbye. Little Chu, her own flesh, how



could she abandon him? He twisted away, muttering about numbers and cuttlefish. Oh, he'd do fine with Ond; he was much more like Ond than like Nektar. Ond would be home any minute to watch over him.

The invisible bubble around Nektar's head felt very tight. If she didn't leave right now, she was going to lose her mind. Tears wetting her face, she ran out to her car and headed for Jose. She passed Ond on his bike without even slowing down. Hurry home, Ond, and take care of our Chu. I can't do it anymore. I'm bad. I'm sorry. Good-bye.

A mob of some kind was blocking the street a few blocks further on. Nektar went down some side streets to avoid the jam.

## 11.

**W**hile Ond and Mitch waited for the agents to return, Ond sent a virtual self to check on Nektar. She wasn't in that cultish group gathering anymore. She and Jose were in a marble room and—Ond was interrupted again. A real-world dog was chasing his bike, barking and baring his teeth as if he meant to bite Ond's calf. Ond snapped fully into the material plane, hopped off the bike, and picked up some gravel to throw at the dog, which was sufficient to send him skulking back into the shadows. Standing there, Ond had the strange realization that he could hardly remember any of the things he'd just been doing in the orphidnet. The memories weren't in his head; they were out—there. Just now Nektar had been doing—what? And Ond had been talking to—who? About what? When he was offline, Ond's memories of the orphidnet were like Web links without a browser to open them.

On his bike, Ond let his mind expand again. Ah, yes, his investigations with Mitch. The results were coming in. There was indeed an upward cascade of intelligences taking place in the orphidnet; each eddy was a part of a larger swirl, up through a few dozen levels, and ending with a single inscrutable orphidnet-spanning super-beezie at the top. Quite wonderful.

As for those luminous humanoid beings—the AIs now reported that these were so-called angels from a parallel sheet of reality that had recently been named the Mirrorworld. Viewing alien angels in the orphidnet seemed both mind-boggling and natural. It made a kind of sense that the quantum-computing mental space of the orphidnet could serve as a meeting ground between two orders of being.

But before Ond could begin considering this more deeply, he was distracted by a news feed saying that the courts had dropped charges against him. The orphidnet beezies proudly told him they'd hacked the system to get Ond out of trouble. But there was still the matter of the torch-bearing lynch-mob pushing towards Ond's current location. By now, even the dimmest bulbs had figured out how to see Ond on the orphidnet.

An urgent message popped up from Jeff Rojas, the guy who'd lent Ond the bicycle. Jeff was on his way in his car to offer Ond a fresh means of escape.

Ond sped the last few blocks towards home.



Just as Chu had hoped, the quantum-mechanical operator at the heart of the angels' world-to-world teleportation method involved raising a numerical representation of a given object, such as a cuttlefish, to a certain exponential power  $K$ , producing an encrypted result of the form *cuttlefish* <sup>$K$</sup> . The actual value of  $K$  was the secret code needed to break the encryption.

Chu and the mushrooms were able to deduce digit after digit of  $K$  by delving into the [ftp.exaexa.org/merzboat](http://ftp.exaexa.org/merzboat) data stream. First of all they figured out how to represent each of the disappeared cephalopods as a number. And then they deduced exactly how long the encryption of each missing cuttlefish had taken. A delicate web of number theory led back from the time intervals to the digits of  $K$ . This timing channel attack was a big problem, a heavy crunch, but the orphidnet made it feasible.

Pretty soon Chu had the integer  $K$  tidily laid out as a pattern in the orphidnet. And with access to  $K$ , he now knew how to teleport back and forth between the two worlds.

$K$  turned out to be several millions of digits long, by the way. Chu relished the fact that the orphidnet allowed him to visualize a gigundo number like that, to smoothly revolve it in his mind. He was starting to realize that, while he was online, a lot of his thinking was happening outside of his physical brain.

For the sake of elegance, Chu and the AIs transformed the giant code number  $K$  into a picture and a sound: blue spaghetti with chimes. Even this condensed pattern was too big to fit conveniently into even Chu's brain. When he "looked" at the pattern, he was really accessing a link to an orphidnet storage location. Chu gloated over the link, happy with the knowing. Although, hmm, given a little time, maybe he could find a deeper pattern that would allow him to memorize the entire code.

A glowing shape approached him, bright and solemn, speaking in a woman's voice: a Mirrorworlder, the same one he'd seen in the temple before.

"You shouldn't pry into our affairs," she said. "We don't want you pushing into our land. We're gods compared to you. Worship me and forget your stolen wisdom."

"No!" said Chu, holding tight to his hard-won code.

The angel woman held up her index finger and glared at Chu. Poking him as if he were dough, she probed into the core of his brain, rooting around, trying to erase the link. Chu began twitching all over. He found his voice and screamed for Nektar. She didn't come.

As Ond neared the house, he could see the lynch-mob only a block behind him. He felt for Nektar in the orphidnet and was surprised to discover that she'd left their house in her car and had driven right past him and, for that matter, past the mob. He hadn't noticed. And now when he contacted her mind, he learned she was on her way to be in the physical presence of her friend Jose—and that she was leaving him for good. Before he could say anything, she'd pushed his connection away.

For the first time, Ond accepted that he might have made a mistake in releasing the orphids.

In his house at last, he found little Chu convulsing on the living-room floor. Ond cradled the boy in his arms, reaching into his mind to stabilize him. To his dismay, he found one of those Mirrorworld angels poking around in his son's head.

Sensing something quantum-mechanical about the alien being, Ond set to work decohering her. He knew that the best way to destroy a complicated quantum state is to closely observe it, that is, to ask a lot of questions about it. Ond subjected the alien to a barrage of questions and measurements, pinning down her sex, mass, energy, age, skin color, background, family size, voice timbre, food preferences, past ailments, education. . . . Finally, with a sound like a locust's abrupt chirp, the angel flipped from our world back to the Mirrorworld she'd come from.

"Are you okay, Chu?"

"I still have the link to the chimes and the blue spaghetti," said the boy weakly. "Here." Ond absorbed Chu's message containing the link. There was a hugger-mugger of voices approaching. Outside someone was honking a car horn.

"That's my friend," said Ond. "We've got to leave right away. We'll go back to Jil's boat."

"I'd like that," said Chu. "Do you want to hear about the cuttlefish and how I found the angels' teleportation code?"

"I heard a little from the orphidnet AIs," said Ond, carrying his son to the door. "I call them beezies." How fragile the boy seemed, how precious.

"The beezies are good," said Chu. "But that angel woman was being mean to me. I wouldn't let go of the link to her secret code. I almost have a way to learn the code by heart."

"Strong Chu," said Ond. "I want to hear all the details. We're going to need them. But you rest now. Tell me on the boat. Don't think about anything hard. I got really scared, seeing you shaking like that. If the angels come for you again, remember to drive them away by asking lots of nosy questions. You have to keep after them, is all."

"Okay," said Chu.

Down the street, people were yelling and running toward them. Moving faster than he would have thought possible, Ond got himself and Chu into the back seat of Jeff's car, a fast and sporty model. Jeff peeled out just before the crowd reached them, following up with a high-speed doughnut move to shake a couple of cars trying to tail them.

On the way to the boat, Chu felt dozy. He slouched against his father in the car's back seat. He wanted to sleep, but before he knew it, he was in the orphidnet yet again. He reached out to find Momotaro and Bixie. They were running around on the *Merz Boat* playing with a neat new toy called Happy Shoon. Jil had just now made it out of smart plastic. Chu joined in; Happy Shoon and the kids could see him. They played a kind of hide and seek game called Ghost In The Graveyard.

The game felt a little creepy because there were a few angels following Chu around. They couldn't get at him right now because he'd learned from Ond to ask them lots of questions. But that was hard. Would life ever be easy again?

After her initial half hour of panic, Jil relaxed and started using the orphidnet, dipping in and out. When she went in, it was like sleeping, as if the orphidnet users were dreamers pooling together in the collective unconscious of the hive mind. Jil began directing her dreamy visions for a purpose: she wanted to find out how to market Yoon Shoon.

Yesterday Mr. Kim, the chief of marketing at Yoon Shoon, had emailed Jil about their need for a "beloved logoman," and Jil hadn't even understood what the hell he wanted. But now the orphid AIs helped her; they searched the global namespace to figure out Mr. Kim's request. A "logoman" was meant to be a little animated figure to symbolize the Yoon Shoon company: a Michelin Man, a Reddy Kilowatt, a Ronald McDonald, a Mickey Mouse, like that.

The orphidnet was teeming with helpful AI agents. They resembled flexible umbrellas patterned with eyes. After telling Jil what Mr. Kim thought a logoman was, the smart umbrellas began helping her design one. The AIs twisted themselves into diverse shapes, modeling possible Yoon Shoon logoman designs. Jil picked the versions she liked; the other agents contorted themselves into variations of the chosen shapes; Jil picked again; and so on. In a few minutes she'd evolved a lovable logoman that she decided to call Happy Shoon. Happy Shoon was a mix resembling a smiling athletic shoe, a dog with a floppy tongue, and a two-toothed Korean baby.

The orphidnet agents instantiated Happy Shoon by loading his mesh onto a handy lump of Craigor's piezoplastic—and right away Happy Shoon began hopping and rolling around deck. Jil snapped out of the orphidnet to be all there for this. Bixie tossed a wooden block; Happy Shoon bounced over to retrieve it, his motions clownish enough to send the kids into gales of laughter.

Although it was getting late, nobody felt like going to sleep. Momotaro and Bixie started playing hide and seek with Happy Shoon, and a virtual version of Chu showed up to join them.

Moving around the deck rearranging things in the dark, Craigor watched the kids play. "The orphidnet is a locative planetary brain," Craigor told Jil. "My possessions are embodied thoughts." He paused, watching the orphidnet AIs. "The orphidnet doesn't have to be alienating. You can use it as a way to pay very close attention to the world. Its whole strength is that it's based on physical reality."

While Craigor talked, Jil had made two more plastic Happy Shoon figures. And she launched a bunch of virtual Happy Shoons onto the net. Some of them stuck around to play hide and seek with Bixie, Momotaro, the plastic Happy Shoons, and Chu.

Craigor loved feeling the real and the unreal swirling around him. After a bit, virtual Chu went away, replaced by Ond in the orphidnet. Ond had a favor to ask.

"What?" said Craigor.

"Can I come back there with Chu?" asked Ond. "Physically? I'm not safe in town. Everyone knows where I am all the time. They want to lynch me."

"What about Nektar?" asked Craigor.

"She—she left me for another man. She hates me for the orphids."

"Poor Ond," interjected Jil, who was listening in as well. "The orphids aren't all bad."

"Can you please send the dinghy now?" said Ond. "We're almost at the Alviso dock. I'm being followed, but don't worry, I'll leave the boat before there's any danger to you. Chu and I just need a minute to catch our breath. And then we'll go—someplace else."

"I'm loving the orphidnet," said Craigor. "I have this sense of resonance and enrichment."

"You're not seeing the flaming angels?" asked Ond. "From a parallel world?"

An odd, unsettling question, that. As Craigor waited for the dinghy to return with Ond and Chu, he indeed started noticing shiny humanoid shapes. One second they'd be perched in the rigging of the boat, and the next they'd be lurking amid the cluttered boxes on the deck.

"They're like those things you think you see out of the corner of your eye," Craigor said to Jil. "And when you turn your head, nothing's there. Are you getting that too?"

"I see them," said little Bixie, peering across the water at the dinghy coming in. "I see the angels following Chu's little boat."

"They built our world," said Craigor, the words jumping unbidden into his head. "Oh, that's creepy. They told me to say that."

"We built *their* world," shot back Jil, quick as a knife. "I said that. Don't let them get to you, Craigor." She had a quick mental image of two sheets of reality moving through each other, each of the parallel planes sparking the other with a flood of light.

"Chu calls the angels' world the Mirrorworld," said Bixie. "He messaged me a magic spell for going there." Bixie stood on tiptoe and called out to Chu in the dinghy. "Try and catch me, Chu!"

The air flickered and Bixie disappeared.

#### 14.

"**S**he's in the Mirrorworld!" shouted Chu, climbing aboard the boat. "I have to go help her!"

"What. Are. You. Talking about!" said Jil, grabbing the boy and shaking him. "What did you do to her?"

"Back off," said Ond, coming to his son's defense. He pried Jil's hands from Chu, who slid down to sit limply on the deck.

"The angels live in the Mirrorworld," said Chu, looking up at them. "They've always been coming here, but now we can see them better—thanks to the orphids. I found out how to teleport a person to the Mirrorworld. I didn't mean for Bixie to—"

"How?" said Craigor grimly. "Tell us how!"

"The orphidnet AIs and I did a timing channel attack on the disappearing cuttlefish," began Chu. "And—"

"More of your nonsense about cuttlefish?" snapped Jil, towering over him. "Where's Bixie, damn you!"

"Hysteria isn't going to help," said Ond. "Chu already gave me a link to

the teleportation code. It looks like blue spaghetti and it sounds like chimes. I'll message the link to you right now, Jil. Got it? All right then. Now let Chu finish telling us how the code works."

"The angels stop thinking about themselves for a second," said Chu, looking very small and uncomfortable amidst the grown-ups' legs. "And then they concentrate on the code and—"

Chu disappeared too.

"You stay here, Craigor," said Jil. "Take care of Momotaro. And Ond, you come with me. This is all your fault, you know. You ruined the world and now I've lost my little girl. People are right to want to lynch you."

As if echoing Jil's words, some people began yelling for Ond from the shore. An outboard motor sputtered and roared into life. Spotlights lit the water.

"Yes, I'll come to the Mirrorworld," said Ond. "That was my plan anyway. To hide there with Chu."

"So, okay then, Doctor Übergeek," said Jil, relenting a bit. "We space out and we slam the code? Like meditating before doing a line of pseudocoke, huh?"

Jil began trying to make the jump. She could see the tangled blue spaghetti and hear the ringing of the chimes. But she remained stubbornly aboard the *Merz Boat*.

"We have to let go of our internal monologues," suggested Ond. "Focus on the spaces between our thoughts."

Normally, that wouldn't be all that hard for Jil, but just now, sick with worry about Bixie, it was tough. Desperately casting about, she thought of the Zen koan where the teacher holds up a stick and says, "If you call this a mere stick, you deny its Buddha nature. If you don't call it a stick, you're lying. What do you call it? Quick!"

Jil broke the stick. She was neither here nor there, neither now nor then, not inside, not out. The chiming blue spaghetti buried her and—hello!

She was in the Mirrorworld, with Chu and Ond beside her, floating amidst gauzy white mist. Yes, the place looked like heaven, with mounds and castles of clouds and pyramidal rays of light, but the three of them were the only angels here. Had they died? Where were the Mirrorworlders? And where was Bixie?

Over and over Jil called her daughter's name until finally—

"I'm right here," came the sweet voice from a cute, puffy cloud directly overhead. A moan of relief escaped Jil; she stretched up her arms and Bixie dropped into her embrace.

"It's fun here," said Bixie, nestling on Jil's shoulder, just the right size. "I can fly. I'm glad you came, Mommy. I was lonely."

"I want to take you home now," said Jil, hoping this was possible. The orchids on Jil's skin were inactive, if they were still present at all. Certainly the links to Earth's orchidnet weren't working here. So how would she access that magic blue spaghetti code?

Anxiously Jil regarded Ond and Chu. They were peering down through a hole in the clouds at a landscape not all that far below them.

"Hi, Bixie," said Chu, glancing over at them. He favored Bixie with one of his rare smiles.

"Can we go back?" Jil asked Chu.

"Probably," said Chu. "I know the code by heart now. I simplified it. The blue spaghetti pattern was just a special kind of knot." He rummaged in his pants pocket and found a piece of string. "I can make the knot. It'll take a minute."

Leaning over the gap in the clouds, Jil saw a town something like San Jose, California, as if seen from an airplane heading in for a landing. The south San Francisco Bay geography was the same, but the city sprawl was gone. Grassy paths had replaced the freeways; the buildings were organic shapes like giant sea shells and thick-trunked trees. And, although it was hard to be sure from up here, in their home world the "angel" Mirrorworlders looked to be regular people in colorful clothes.

"I'm thinking they have a completely different style of technology from us," mused Ond. "Genomics and psionics instead of mechanics and electronics. I bet they grow their houses from seeds, and that they're in telepathic contact with each other. We'll fly down and check it all out, Chu."

"Won't they chase after us?" asked Chu. His fingers were weaving his piece of string into an intricate Celtic-style knot.

"Symmetry indicates that *we'll* be the ones who look like angels in the Mirrorworld," said Ond. "Glowing, hovering, hard to see. We'll haunt the locals, we'll make some heavy appearances. First of all we pay back that Mirrorworlder who was poking you, Chu. Teach her some religion! We'll get concessions, make some live-and-let-live deals. I figure to spend a few years here—till things back home calm down. Will you keep me company, son?"

"Okay," said Chu, slowly. "But I'll miss the orphidnet a lot. I liked being so smart. I liked the beezies." Claspings the partly knotted string, he held his fingers up close to his eyes. "Our skin-orphids aren't doing anything anymore."

"Fine structure constant!" exclaimed Ond. "A different value here. Good-bye electronics; farewell, molecular quantum computers."

"Boring," said Chu.

"Hey, but we're angels now," said Ond. "Angels kick butt."

"Maybe," said Chu, working one end of the string over and under a series of loops. "But we mustn't listen too much if the Mirrorworlders ask us things. They might decohere us and flip us back to Earth."

"We're *good* at not listening," said Ond, patting his son's shoulder. "We're geeks."

"Can Bixie and I go home now?" said Jil. "Craigor and Momotaro will be worried sick."

"I hope you're not angry about the orphids covering Earth," said Ond. "Maybe they were a mistake. For what it's worth, I'm sorry."

"Oh, don't beat yourself up," said Jil, feeling pity for the awkward man and his odd son. "We'll all adjust. People never really change. Is your magic knot ready, Chu?"

"Ready," said Chu, delicately tying together the two loose ends of his intricately woven loop of string. "Stare at this as if it were the blue spaghetti. And feel it with your fingers. That'll take the place of the chimes."

"Me first," said Bixie.

Chu smiled, holding out his knot for her to touch.

"See you later." O



## Introduction

As I write these words, 2005 is drawing to a close, and I'm contemplating an enormous pile of wonderful small-press books, so far left unreviewed. But as you read these words, 2006 is well underway. Yet are these offerings, up to a year old, irrelevant and out-of-date? Hardly! They're all still available, and worthy of your consideration, as they begin what will hopefully be long satisfying shelf lives for their writers and readers alike.

Longtime, observant readers of this column will note that starting with this installment, I've abandoned printing the snailmail addresses of the publishers. Nearly every one has an online presence, making your job and mine much easier.

## Faces Behind the Books

Before moving into the actual reviews, I'd like to talk a minute about the editors at the small presses who produce your favorite reading material. It looks like the Hugo Awards have chosen to split out magazine editors and book editors into two separate award categories. And while Big Names like David Hartwell at Tor or Lou Anders at Pyr come readily to mind as candidates for the new prize, those who labor at smaller scales should not be neglected for their fine work.

I'd mention, just off the top of my head:

Sean Wallace, Juha Lindroos, and John Betancourt at Wildside/Prime/Cosmos.

Gary Turner and Marty Halpern at Golden Gryphon.

Patrick and Honna Swenson at Fairwood Press.

Deborah Layne, Jay Lake, and Forrest Aguirre at Wheatland.

Pete Crowther and Nick Gevers at PS Publishing.

Jacob Weisman at Tachyon.

Chris Roberson at Monkey Brains.

Gavin Grant and Kelly Link at Small Beer.

Jean-Marc Lofficier and Randy Lofficier at Black Coat.

And, last but certainly not least, Jason Williams at Night Shade.

The next time you enjoy a small press title, take a moment to annotate the editor's name, and then think about them when the Hugo preliminary ballots roll around!

## Sequential Art

In science, a failed experiment indicates a lousy thesis. But in the arts, crashing and burning might also be a sign of being ahead of the times. Such was the case with Barry Windsor-Smith and his anthology series called *Storyteller*. This oversized, deluxe "comic" ran for nine issues in the late 1990s, and consisted of an episode each of three ongoing series in every issue. The storytelling was impeccable, the presentation marvelous. But lack of publicity, a slightly higher price-point, and



inertia and timidity among comics-readers doomed the book to extinction.

However, thanks to Fantagraphics, we will now see the entire contents of *Storyteller* reassembled and reprinted in a format befitting their magnificence. The first volume, 2003's *Young Gods & Friends* (hardcover, \$29.95, unpaginated, ISBN 1-56097-491-5), collected all the strips concerning a group of wayward deities whose most charming and scary member was the bumptious Princess Adastra. The second volume, *The Freebooters* (hardcover, \$29.95, unpaginated, ISBN 1-56097-662-4), is sword-and-sorcery centering around a gone-to-seed barbarian named Axus. The third volume, *The Paradoxman*, is SF, and due out this year.

Windsor-Smith is artist and scripter here, and he excels at both tasks. His art displays a unique, masterful style that nonetheless echoes both fine-art influences such as Art Nouveau and the pre-Raphaelites, and fellow comics geniuses such as Winsor McKay and Walt Simonson. (*Young Gods* is dedicated to Jack Kirby, for instance, probably as a nod to Kirby's "Fourth World" creations.) Having devised three separate troupes of vivid characters (who cross over into each other's universe at certain points), Windsor-Smith turns them loose and follows them in dreamy, meandering, but always intriguing fashion (much the way that Bradbury once dictated that plot should consist of "following a character's footprints in the snow"). The dialogue is charming and insouciant, the imagery is gorgeous, and the combination is like inhabiting a dream-scape blending E.R. Eddison, Robert E. Howard, and Thorne Smith.

These volumes are also filled with generous ancillary material, includ-

ing never-before-seen strips and insights into Windsor-Smith's creative process. So while we can lament that Windsor-Smith never got to complete these three sagas as envisioned, we can glory anew in what he did achieve.

Perhaps you recall me raving about Lewis Trondheim's *Astronauts of the Future* (2004). Now comes more from the French artist-writer, this time in collaboration with Joann Sfar; both books are from publisher NBM. *Dungeon Volume 1: Duck Heart* (trade paper, \$14.95, unpaginated, ISBN 1-56163-401-8) and *Dungeon Volume 2: The Barbarian Princess* (trade paper, \$14.95, unpaginated, ISBN 1-56163-421-2) both tell the story of the eponymous Keep, a place run by a money-grubbing, selfish avian businessman and designed solely to fleece adventurers of all their worldly goods, while killing them in the process. The place is inhabited by an assorted cast of wizards and monsters and functionaries, but most importantly by our two heroes: Herbert, a duck-turned-warrior, and Marvin, a bipedal, vegetarian dragon.

From this précis, I think you can see that the setup is comedic in nature, and Trondheim and Sfar score innumerable laughs. Their dialogue is laden with Marx Brothers non-sequiturs ("Wait for what? For you to be less stupid?"), their simple yet clever and detailed artwork perfectly captures sight gags and emotions alike, and their plotting is manic. The whole series reminds me of Sergio Aragones's classic *Groo*, and deserves a place on the shelf of any lover of sword-and-sorcery or parody or both.

The rudely but accurately titled *F\*ck Off and Die* (Savoy Books, hardcover, £30.00, 160 pages, ISBN 0-86130-113-7) is the latest bilious,

cathartic blast from writer David Britton and artist Kris Guido. Stuffed to overflowing with B&W and color strips, this volume (with a blazing introduction by Alan Moore) features Britton's infamous troupe of characters: Meng and Ecker, Lord Horror, and La Squab. The latter is the true star of this volume. A foul-mouthed, violent, pre-pubescent girl, she mirrors, inspires, and parodies the current crop of media tartlets. Britton uses his cast to comment on politics, sex, and art, as well as the general sad state of humanity. His vituperation is scabrous but funny. What more can you say of someone whose idea of a book review of, say, Martin Amis, is to simply explode Amis's head? As for Guido's art, it reminds me more and more of that of S. Clay Wilson, with pages and scenes that alternate between meth-freak enjambed intensity and clean-lined iconography.

### Miscellaneous Titles

Suzette Haden Elgin's *The Science Fiction Poetry Handbook* (Sam's Dot Publishing, trade paper, \$11.95, 125 pages, ISBN 1-930847-81-5) fills a unique niche in the field, and does so admirably. While there are plenty of books for the aspiring writer of SF/F/H prose, there are few I've seen for poets who wish to deal in the fantastic. Elgin's book is a fine introduction to the rigors—and joys—of poetry creation and marketing, with a pronounced slant toward what makes SF verses special. The chapters progress clearly and logically, giving plenty of specific examples (from Elgin's own poems). Just when you're sated with theory, practicality takes over, and vice versa. The tone is warm and encouraging, not lofty and dis-

missive of beginner's efforts. The lessons taught here would be valuable for any dealer in words, not just those who rank their output in stanzas.

Along similar lines comes Kate Wilhelm's *Storyteller* (Small Beer Press, trade paper, \$16.00, 192 pages, ISBN 193152016X). But Wilhelm's distillation of nearly thirty years' worth of teaching experience is salted with a running memoir. Anecdotes mostly revolve around the Clarion Writing Workshops where Wilhelm presided with her husband, Damon Knight. But she also generously shares moments from her private life and professional career, making this a volume that's doubly attractive. You get valuable insights into becoming a writer, practical exercises for honing your skills, as well as a mini-autobiography told in a charming and humble manner. I heard Wilhelm speak as GOH at Readercon 2005, and can testify that this volume is as engaging as the live person behind it.

The name of artist Matt Howarth should be familiar to any reader of the small presses, for his fine comic-strip work in many venues. Now Howarth has hooked up with a musical group called Radio Massacre International (Steve Dinsdale, Duncan Goddard, and Gary Houghton) to concoct a mixed-media happening in the form of a two-CD release titled *Emissaries* (Cuneiform Records, \$18.98, CD1: 60:00; CD2: 76:36, ASIN B0009GUT3S). This trio of musicians works in the genre known as "space rock," whose lineage includes such bands as Tangerine Dream and Hawkwind. RMI is fully the equal of these progenitors, creating moody, shimmering soundscapes with moog, theremin, and more conventional instruments. At times vast and cosmic, at others intimate and organic, these

compositions—with resonant titles such as “seeds crossing the interstellar void” and “a piano wanders the incandescent vapours”—chart a galactic odyssey across many alien terrains. It's a journey you'll want to take again and again.

Readers of this magazine will need no introduction to the splendid poetry of Bruce Boston. But accustomed as we are to his richly hued stanzas rife with complex sentiments and ideas, we might not be ready for the simple, even silly verses of *Etiquette With Your Robot Wife and Thirty More SF/F/H Lists* (Talisman, chapbook, \$4.95, ISBN unavailable). However, once you adjust your expectations along David Letterman lines (if Letterman and his writers were good poets, that is), then you'll be receptive to Boston's Sheckleyan humor. You'll learn about “Things Not to Say After a Nuclear Holocaust” and “Why I Chose a Robot Body and Never Regretted It.” And the illustrations by Marge Simon are perfect accompaniment to these inspired verbal prattfalls.

Can any one person possibly command an encyclopedic knowledge of the science fiction field today, given how sprawling the territory has become? I'd have to say yes, just on the basis of one man and his most recent book. Don D'Amassa, longtime reviewer and critic for [SF] *Chronicle* and other publications, author of fiction and fannish works alike, has just released his *Encyclopedia of Science Fiction* (Facts on File, hardcover, \$65.00, 538 pages, ISBN 0-8160-5924-1), a book single-handedly compiled by the author, which manages to encompass the whole range of printed SF (as well as some cinematic works). True, there's not an entry for every single person who ever penned SF, nor are such periph-

eral areas as SF cartoons or comics or music covered, as in the *Cluteopedia*, but the representative entries that are included are so clear and comprehensive that the reader will come away with a fine sense of the field's history and current state.

D'Amassa devotes entries to authors, novels, multi-book series, movies, and, best of all, individual short stories (many of which are not the obviously famous choices). He offers career summaries, plot synopses, and carefully weighed opinions. I'm fond of his observations on the genre, such as “Science fiction has traditionally been a literature of heroes. . . .” (in the entry for “Carcinoma Angels”), or “One of the perils of extrapolating near-future trends in fiction is that there is a high probability that the trends depicted in the story will be outdistanced by events very quickly” (in the entry for *Code Three*). With a wealth of such pronouncements, earned through decades of reading and thinking about the genre he loves, this book offers many hours of sheer browsing pleasure.

Another reference work of longer pedigree has just been reissued, in its fifth edition. Neil Barron's *Anatomy of Wonder* (Libraries Unlimited, hardcover, \$80.00, 995 pages, ISBN 1-59158-171-0) is an acknowledged milestone in the field of reference works about SF. And this new incarnation wears its laurels proudly. The book was assembled under Barron's supervision with the help of nearly two dozen experts, including such reliable names as Brian Stableford, William Contento, and Gary Wolfe. Divided in three, the book exhibits a beautiful and clever schema. The first part consists of five essays that chart the development of SF from 1516 to 2004. The second part offers 1400 critical entries on the core

books of the field. And finally, we close out with "The Secondary Literature—Annotated Bibliography," constituting almost half of the thousand pages.

The opening essays brilliantly sum up the canon; the crisp, evocative paragraphs on individual titles pique readerly interest; and the massive guide to further critical reading is a map for future study. What better *vade mecum* could you want?

Alan Moore as a young SF fan? You can learn all about his roots, plus so much other fascinating material, in *Alan Moore Spells It Out* (Airwave Publishing, trade paper, \$9.95, 74 pages, ISBN 0-9724805-7-9), a book-length interview that is the result of five hours of conversation with publisher Bill Baker. Baker asks intelligent, probing questions and Moore responds openly and at length. Some of the material is a little dated by recent events—the career decisions Moore forecast in 2002 have already come to pass—but the vast bulk of the work maintains its timeless interest.

### Novels and Novelettes

One could not imagine a classier and more honorable bearer of the Baumian banner of Oz than Hungry Tiger Press. Their books of recent years—*Paradox in Oz* (2000) and *The Salt Sorcerer of Oz* (2003)—were simultaneously glorious and affordable objects calculated to thrill the hearts of collectors, and also winningly winsome extensions of the Oz mythos. Their latest offering, *The Living House of Oz* (hardcover, \$27.95, 239 pages, ISBN 1-929527-08-X), maintains these high standards. The novel is written by Edward Einhorn (author of *Paradox*)

and copiously illustrated by Eric Shanower (author of *Salt Sorcerer* and illustrator of both previous works). On both a narrative and visual level it succeeds admirably, telling the story of a young boy named Buddy and his quest for his true parentage and a place of refuge from the abominable beings—Phanfasms—who hunt him and his mother. There are twists and turns aplenty, charmingly surreal yet dream-logical; new characters who consort seamlessly with the classic protagonists (I particularly enjoyed an animated coat-rack named the Earl of Haberdashery); and meaty yet not over-done themes such as personal responsibility and the tyranny of the state. Shanower's art has never been more luminous nor droll. Double-page spreads, such as Buddy's arrival at the Phanfasm city or the attack of the Phanfasms in Ozma's throne-room practically leap off the page. The combination of Einhorn's wit and Shanower's affectionate envisionings make this Oz adventure a near-tangible reality.

Lance Olsen is a writer whose technical ingenuity is matched only by his fertility of invention and compassion for his characters. His novel *10:01* (Chiasmus Press, trade paperback, \$12.00, 187 pages, ISBN 0-9703212-6-0) illustrates all these qualities beautifully. Here's the premise and setup. We are in a movie theater at the legendary Mall of America, as the unnamed feature is about to begin. The theater is partially filled with a score or so of moviegoers whom chance has assembled into a temporary unity. We will bounce omnisciently from one POV to another, learning the deepest secrets of these characters in the space of ten minutes of previews, before a certain fate overtakes them all. In this sense,

Olsen's book resembles Geoff Ryman's famous experiment, 253 (1998)—intentionally, I'm sure, given that both books share numerical titles. But Olsen's book is more satirical than Ryman's, as we might infer, given its kitschy venue. Here on display is a panoply of postmodern lifestyles and vacuous egocentric concerns. But Olsen digs into the reasons why his characters are as they are, and the result is empathy and tragicomic insight. I'm also reminded of the work of Robert Coover and William Gaddis along these same lines (especially given Coover's fascination with the products of Hollywood). There's a hint of Kafka as well, with plenty of outright supernaturalism (ghosts and other unlikely beings) and surrealism. By page 161, Olsen has established a central dichotomy between two schools of film—and, by extension, schools of literature and even attitudes toward life: mimesis versus fantasy. Do we regard the world as solid, sensible, rational, cut-and-dried—or fleeting, uncanny, illogical, and mysterious? A book like this is the winning synthesis between both camps.

Eric Brown has done a clever thing in *Approaching Omega* (Telos Publishing, trade paperback, \$8.95, 117 pages, ISBN 1-903889-98-7. He's found a scientifically respectable way to combine zombie fiction and space fiction, to the one-shot betterment of both genres. (I would hate to see endless ripoffs and dilutions of his concept, but it's cool once.) In a way, Brown's notion is reminiscent of the core conceit of the *Alien* films, or the Borg from the *Star Trek* mythos. But Brown makes use of a lot of scary riffs traditionally associated with the classic zombies that might have inspired the others mentioned above.

At the end of the twenty-first cen-

tury a dying Earth sends off a generation ship carrying five thousand star-colonists as the heirs of mankind. One thousand years into the journey of the *Dauntless*, a quartet of commanders—Latimer, Li, Renfrew, and Emecheta—are automatically awoken to deal with the results of a collision that has seemingly destroyed the AI that runs everything. They make all possible repairs, setting up lesser, backup computers in charge, then go down once more into hibernation, hopeful that all will be well. They are woken a second time to find that the Central AI is not dead, but mad. The inhuman intelligence has begun plundering the people-freezers to produce a race of brain-washed cyborgs. Now the foursome is alone against a force of violent cyber-zombies, their former friends, who wish to convert the holdouts to Central's utopia. Can the survivors manage to take the ship back and resume their mission? Perhaps—but only after running firefights in the corridors and bays of the immense ship.

Brown moves his action along zip-pily, evoking real sympathy for his quartet of unlikely action-heroes. Filled with suspense and horror, this novel offers a fresh twist on an old theme.

In *The Cosmology of the Wider World* (PS Publishing, trade paperback, \$18.00, 173 pages, ISBN 1-904619-82-7), Jeffrey Ford succeeds in blending the sundry charms of fables, fairy tales, beast tales, and magical-realist parables into a unique whole that only he could have concocted. Reminiscent a bit in tone and feel of his magnificent story, "The Annals of Eelin-Ok" in the Datlow-Windling anthology *The Faery Reel* (2004), this narrative is the life story of Belius, a minotaur born to human parents in a world not

too far removed from ours. A unique freak among his human community, Belius grows up, naturally enough, somewhat bent in spirit and outlook. A final insult to his young-adult sensibilities sends him fleeing over the mystical border into the legendary Wider World, a land where all animals are sentient. There he will become a scholar and philosopher, living in a coral tower constructed with his own hooves like some Joycean exile. But even here, a vague malaise overtakes him, and only the efforts of his good friends—a turtle, an owl, an ape, and others—can possibly restore him to his prime.

Ford's writing has never been more beautiful: full of pleasing and arresting figures of speech ("His stomach hung out in front of him like a destination the rest of his body was traveling to"), yet uncontrived and direct. His inhabiting of Belius's psyche is intimate and detailed, yet the narrative invites us to stand off at a small distance and regard the minotaur's tragicomic life with some wise dispassion. (I am reminded of a lost classic with a similar protagonist and slant: Christopher Morley's *Where the Blue Begins* [1922].) Events proliferate in rich and surprising ways, and the dialogue among the animals is worthy of a Kipling. Like the work of Gene Wolfe, this book reinvigorates the whole fantasy genre.

Antediluvian author A. Hyatt Verrill does not even rate an entry in either the SF or Fantasy volume of the all-encompassing *Clutepedia*. But at one time he helped fill the pages of the pulps in a satisfying manner. Consider his major offering for 1929 in *Amazing Stories Quarterly*, now reissued in book form: *The Bridge of Light* (Capricorn Publishing, trade paperback, \$16.00, 220 pages, ISBN

0-9753970-7-9). This tale blends A. Merritt, Mark Twain, and H. Rider Haggard into a charming lost-world romp. Coming into possession of a mysterious Mayan codex, our hero plunges into the wilds of Guatemala and discovers, after arduous trials, the hidden land of Mictolan on the far side of the titular radioactive luminous span, where he falls in love with the beauteous Itzá, introduces rudimentary engineering principles to the benighted natives, foils the evil dwarfish priest Kinchi-Haman, and earns the name Itzimin-Chac, herald of Kukulcan. Verrill's prose is sturdy and streamlined, his sense of suspense adequate, and his plotting economical. Anyone in the market for some proto-Indiana Jones thrills will get their money's worth here.

## Anthologies

Deborah Layne and Jay Lake have assembled in *Polyphony 5* (Wheatland Press, trade paperback, \$18.95, 419 pages, ISBN 0-9755903-5-9) one of the meatiest, most enticing volumes of original stories to hit the market since—well, since *Polyphony 4*. These tales highlight so many varied voices, themes, styles, and genres that the lucky reader will put the book down upon completion and marvel that our field is so rich. As usual with this series, there's a splendid mix of newer writers and classic names, all of high quality. Among the former, choosing almost willy-nilly, I enjoyed Nick Mamatas's "To-do List," which is formalistically congruent with its title, yet manages to construct a shimmering narrative; "Dwelling," by John Aegard, which charts the fate of survivors in the ruins of Seattle; and Brian Richard Wade's "The Woman Who



Spoke in Parables," a compressed birth-to-death account of a woman who is either very wise or very foolish. The more widely known contributors include Jeff VanderMeer with "The Farmer's Cat" (how one ingenious farmer battled an infestation of trolls); Ray Vukceвич's "Tongues" (the particularly nasty fates of a New Age couple); and Leslie What's "Nature Mort" (a painter and his female servant dance around the nature of death). The genres range across the literary map, from pure SF to fable to fantasy to slipstream, providing a change of pace with every entry. The writers you encounter here will define the future of fantastical fiction.

Editor and publisher Mike Allen has taken his periodical anthology of new fantastical poetry, *Mythic Delirium*, out of Warren Lapine's DNA stable of magazines and re-embarked on a solo course. Issue 13 (chapbook, \$5.00, 28 pages, ISSN unavailable) is strong indication that nothing has been lost by this move. Almost twenty poems by a diversity of talents exhibit a full spectrum of themes and a heartening mastery of the form. We have the deceptively simple diction and rhythms of Carma Lynn Park's "Crow Eats Carrion" alongside the dense and recomplicated imagery of Sonya Taafe's "Ibis, Scribe." Poems with full narrative engines—Darrell Schweitzer's "Helen Returns to Troy"; Catherynne M. Valente's "The Queen of Hearts"; and Aurelio Rico Lopez's "Arise"—consort easily with more imagistic ones, such as "Motion" by Abraham Linik and "Inuit Sky" by Gary Every. In short, there's a taste here for every lover of verse.

After publishing their monumental encyclopedia, *Shadowmen* (2003) and *Shadowmen 2* (2004), subtitled respectively "Heroes and Villains of

French Pulp Fiction" and "Heroes and Villains of French Comics," Jean-Marc and Randy Lofficier took the next logical creative leap and commissioned an original anthology featuring many of the classic characters whose biographies had been given. The result, *Tales of the Shadowmen: The Modern Babylon* (Black Coat press, trade paper, \$22.95, 253 pages, ISBN 1-932983-36-8), is a feast of retro-style thrills. A varied troupe of authors, including such familiar names as Robert Sheckley (in what must surely be one of his last appearances), Brian Stableford, Chris Roberson, and Terrance Dicks, bring all their affection for the famous creations of other authors into a postmodern mélange of adventure. As you read these pieces, you can play the game of identifying the more familiar figures—Maigret, Lupin, Dupin, Robur, Holmes—before turning to the handy key at the rear of the book that tallies the various appearances of lesser-known personages. The stories range from low-key homages to gonzo outings. It takes Roberson, for instance, some convolutions to get Batman's parents on the French scene, but he does so expertly. A second volume of this series is already scheduled for 2006. With a third installment of Alan Moore's allied *League of Extraordinary Gentleman* coming up soon as well, we'll have a banner year for interbook, trans-author commingling.

Editor Ernest Lilley has assembled a stellar lineup of writers in his theme anthology *Future Washington* (WSFA Press, trade paperback, \$16.95, 290 pages, ISBN 0-9621725-4-5), and their contributions are all well up to snuff. Spinning off in myriad ways from the simple premise—depict the life of the USA's capital at some point in the future—these cre-



ators come up with wildly contrasting scenarios. Alien invasion arrives in Steven Sawicki's "Mr. Zmith Goes to Washington." Repression and revolt crop up in such tales as Edward M. Lerner's "The Day of the RFIDs" and Joe Haldeman's "Civil Disobedience." And of course the possible passing of the torch to new politics can't be ignored, as L. Neil Smith shows us in "The Lone and Level Sands." Perhaps the standout entry is Cory Doctorow's "Human Readable," which examines recurring everyday apocalypses through the viewpoints of a young couple.

This is definitely a keeper to shelve next to David Alexander Smith's *Future Boston* (1994).

Monsters are hot. King Kong stamped across the cinema in 2005. Marvel Comics is resurrecting great old Jack Kirby monsters. And Dark Horse Press is doing a line of novels based on the monstrous buddies from Universal films: the Wolfman, Frankenstein, and their kin.

In line with this trend arrives a volume titled *Daikaiju! Giant Monster Tales* (Agog! Press, trade paperback, AUS\$32.95, 352 pages, ISBN 0-9580567-4-9). Edited by Robert Hood and Robin Pen, with a wonderful cover by Bob Eggleton, this volume is as gigantically good as its role models. Over two dozen well-done stories, as well as some poems and a fine essay on the history of daikaiju ("giant monsters" in Japanese) bulk this volume out to Godzilla proportions.

Many of the authors naturally enough put a humorous spin on these campy creations, either subverting pre-existing monsters or inventing parodic examples of their own. The title alone of Adam Ford's witty "Seven Dates That Were Ruined by Giant Monsters" is indicative

of a certain slant. But there are plenty of stories that treat the themes seriously, such as George Thomas's "Requiem for a Wild God."

If you've ever had a hankering to see Chicago destroyed (Stephen Mark Rainey's "The Transformer of Worlds") or learn what a North Korean Commie monster might look like (Cody Goodfellow's "Kongmin Horangi: The People's Tiger"), then you've come to the right place!

### Single-author Collections

Much like Italo Calvino with his *Italian Folktales* (1956), Robert Coover turns—or returns—to a primal wellspring of story-telling in his latest collection, *A Child Again* (McSweeney's, hardcover, \$22.00, 276 pages, ISBN 1-932416-22-6). Here, you'll discover masterful metafictional recastings of such Ur-fiction as "Little Red Riding Hood" (Coover's "Grandmother's Nose"); "The Pied Piper" ("The Return of the Dark Children"); and "Casey at the Bat" ("McDuff on the Mound"). The effect of these modernizations is at once ultra-contemporary and ancient. The reader feels that he or she is connecting with old, old myths, yet filtered through Coover's taut prose, keen postmodern wit and narrative hijinx.

Coover's genius is on display right from the first story, "Sir John Paper Returns to Honah-Lee," which takes the sixties bit of musical fluff known as "Puff, the Magic Dragon" and distills a touching story about age and loss of innocence and rejuvenation from the pop treacle. Coover's opening sentences are all hook and heart and mystery. Consider this one from "Playing House": "Once there was a house, whispers someone in the dark (we are learning about another

house, our own house, the one in which we live), and it had windows everywhere and walls as thin as skin and it was full of light." Who wouldn't want to continue reading after that? In story after glorious story, he recaptures a childhood innocence not untinged with rueful adult wisdom. And of course, we hear echoes of Coover's past themes here, from baseball (*The Universal Baseball Association, Inc.* [1968]) to suburbia (*John's Wife* [1996]) to politics (*The Public Burning* [1976]).

As artifact, this book is exemplary. A chunky hand-filler with marvelous endpapers, the book also features an exterior pocket containing fifteen oversized playing cards with text that can be reshuffled to make a never-ending story titled "Heart Suit," about the fabled King of Hearts and his missing tarts (in all senses of the word). McSweeney's proves that its program to reinvigorate literature for the twenty-first century extends to presentation as well as content.

Karl Schroeder has established a fine reputation on the basis of three recent novels: *Ventus* (2000), *Permanence* (2002), and *Lady of Mazes* (2005). But he's been having fine short stories published since the early 1990s, and now many of them are on display in *The Engine of Recall* (Robert J. Sawyer Books, hardcover, \$19.95, 228 pages, ISBN 0-88995-323-6). Stephen Baxter's introduction to this volume makes a good case for Schroeder's unclassifiability strictly as a "hard SF" guy. A story like "Hopscotch," for example, exhibits a contemporary setting and a characterological examination of what drives people to seek out the paranormal. Two stories involving the freelance trouble-shooter Gennady Malianov—"The Dragon of Pripyat" and "Alexan-

der's Road" (the latter original to this volume)—reflect a Warren-Ellis-style, day-after-tomorrow edginess. But of course, Schroeder can certainly handle space opera tropes magnificently, as witnessed by such pieces as "Halo" (life around a brown dwarf star) and "Solitaire" (a woman partners with an enigmatic alien). In short, Schroeder has any number of impressive, black-hole-tipped arrows in his copious quiver.

By the way: Rob Sawyer has lent his name to this imprint from Red Deer Press for the purpose of highlighting both Canadian authors and hard SF. A commendable mission, involving, no doubt, lots of unpaid work on his part. Please offer him your support.

Paul McAuley's *Little Machines* (PS Publishing, hardcover, \$50.00, 328 pages, ISBN 1-902880-94-3) reflects the mid-period work of a master. McAuley has now honed his skills and imagination to the point where he can turn his hand to any type of story and instantly stamp it as his own. The seventeen stories in this limited-edition collectible volume range the gamut from alternate history ("The Two Dicks" and "Cross Roads Blues," starring Philip K. Dick and musician Robert Johnson respectively); to character studies such as "I Spy"; to hard SF such as "How We Lost the Moon, a True Story by Frank W. Allen." McAuley examines a world made over by the arrival of "Alien TV" (and its sequel, "Before the Flood"). He indulges in Pynchonian conspiracies in "The Proxy." And he gets inside the head of a deluded righteous murderer in "The Secret of My Success." But no matter what the topic, treatment or themes, he exhibits a broad intelligence, superb narrative gifts, and a wry sense of how the world works. ○

# SF CONVENTIONAL CALENDAR

This is the last call for the Los Angeles area World SF Convention, LACon IV. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, info on fanzines and clubs, and how to get a later, longer list of cons, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 6 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

## AUGUST 2006

3-6—PulpCon. For info, write: Box 90424, Dayton OH 45490. Or phone: (973) 242-5999 (10 AM to 10 PM, not collect). (Web) [pulpcon.org](http://pulpcon.org). (E-mail) [info@pulpcon.org](mailto:info@pulpcon.org). Con will be held in: Dayton OH (if city omitted, same as in address) at the Convention Center. Guests will include: to be announced. Annual meet for collectors of old-time pulp magazines.

4-6—OtaKon. [otakon.org](http://otakon.org). Convention Center. Baltimore MD. Anime. "Convention of Otaku Generation." 25,000 expected.

4-6—Anime Overdose. [aodsf.com](http://aodsf.com). [staffing@animeod.com](mailto:staffing@animeod.com). Cathedral Hill Hotel, San Francisco CA. Anime.

4-7—MythCon (405)325-1918. [mythsoc.org](http://mythsoc.org). Univ. of Okla., Norman OK. Mythopoeic Society annual con. Tolkien, etc.

11-12—MechaCon. [mechacon.com](http://mechacon.com). Hilton, Lafayette LA. Limit Break Cosplay, J. Seth, Doug Smith. Mecha/anime.

11-13—ArmadilloCon. (512)477-6259. [armadillocon.org](http://armadillocon.org). Doubletree, Austin TX. Czerneda, Gilt, Friesner, Hogan.

11-13—ConGlomeration. [conglomeration.org](http://conglomeration.org). Louisville KY. Harry Turtledove, Omar & Sheila Rayyan, S. & S. Francis.

11-13—Horrorfind Weekend. (443)465-0645. [horrorfindweekend.com](http://horrorfindweekend.com). Marriott, Hunt Valley (Baltimore) MD. E. Lee.

11-13—PICon. [pi-con.org](http://pi-con.org). Best Western Sovereign, West Springfield MA. Jacqueline Carey (author, "Kushiel" series).

17-20—Creation StarTrek, 217 S. Kenwood, Glendale CA 91205. (818)409-0960. [creationent.com](http://creationent.com). Las Vegas NV.

17-20—GenCon, 120 Lakeside Ave. #100, Seattle WA 98122. (206) 957-3976. [gencongamefair.com](http://gencongamefair.com). Indianapolis IN.

18-20—BuboniCon, Box 37257, Albuquerque NM 87176. (505)266-8905. Wyndham. Bova, Cogswell, Mattingly, Lowe.

18-20—Finland Nat'l. Con, c/o TSFS, PL 538 20101, Finland. [finncon.org](http://finncon.org). Helsinki Finland. Jeff VanderMeer.

18-21—DiscWorld Con, Box 102, Royston SG8 7ZJ, UK. +44 (0) 7092 394-940. [dwcon.org](http://dwcon.org). Hinckley UK. Pratchett.

19-20—Fanex, 9721 Britinay Ln., Baltimore MD 21234. [midmar.com](http://midmar.com). Embassy Suites No., Baltimore MD. Horror film.

23-27—LACon IV, Box 8442, Van Nuys CA 91409. [info@laconiv.com](mailto:info@laconiv.com). Anaheim CA. Willis. WorldCon. \$175+ at door.

24-27—France Nat'l. Con, c/o AAAA, 34 rue Juan Juars, Belleing 59135, France. [pierre.gevart@wanadoo.fr](mailto:pierre.gevart@wanadoo.fr).

25-27—JVL-Con, 1316 Monterey Ln., Janesville WI 53545. (808)290-7025. [si-fi-nut.com/jvl-con](http://si-fi-nut.com/jvl-con). Ramada. S. Keach.

25-27—Creation StarGate SG1, 217 S. Kenwood, Glendale CA 91205. (818) 409-0960. [creationent.com](http://creationent.com). Chicago IL.

26-27—Creation BattleStar Galactica, 217 S. Kenwood, Glendale CA 91205. Contact as above. Hilton, Burbank CA.

26-28—Dimension Jump, Box 35, Hitchin SG4 9XZ, UK. [reddwarfianclub.com](http://reddwarfianclub.com). Moat House, Peterborough UK.

27-Sep. 3—Bill Blair Birthday Celebrity Cruise. (818)797-4635, x130. [allenactor.com](http://allenactor.com). Texas to Jamaica. B. Blair.

## SEPTEMBER 2006

1-3—Fan Expo. [hobbystar.com](http://hobbystar.com). Toronto ON. Shatner, Nimoy, Stewart, Ryan, Masters, Sorbo, Durance, Kidder, Spiner.

1-4—DragonCon, Box 16459, Atlanta GA 30321. (770)909-0115. [dragoncon.org](http://dragoncon.org). Gaming, comics, SF, fantasy. Huge.

1-4—CopperCon, Box 62613, Phoenix AZ 85062. (480) 949-0415. [coppercon.org](http://coppercon.org). Mission Palms, Tempe AZ.

1-4—Anime Fest, 3001 S. Hardin Blvd. #110, PMB 108, McKinney TX 75070. (972)569-8995. Indianapolis IN.

2-4—KumoriCon. [kumoriicon.org](http://kumoriicon.org). [publicity@kumoriicon.org](mailto:publicity@kumoriicon.org). Doubletree Hotel/Lloyd Center, Portland OR. Anime.

## AUGUST 2007

2-5—Archon, Box 8387, St. Louis MO 63132. [archonett.org](http://archonett.org). Collinsville IL. 2007 No. American SF Convention. \$60+.

30-Sep. 3—Nippon 2007, Box 314, Annapolis Jct. MD 20701. [nippon2007.org](http://nippon2007.org). Yokohama Japan. WorldCon. \$180+.

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SIMPOWERS

# NEXT ISSUE

## OCTOBER/ NOVEMBER DOUBLE ISSUE

Our special October/November Double Issue, always one of the most eagerly anticipated issues of the year, is jam-packed with as many stories as we can possibly fit into it, including the best work by both rising new stars and some of the Biggest Names in the business.

## OCTOBER/ NOVEMBER LEAD STORIES

One of our most popular and prolific writers, **Robert Reed**, brings us our lead story for October/November, with an intense and fascinating look at a society where the invention of the "ripper" opens the universe to colonization and makes it possible for every man to be the ultimate ruler, literally the father, of his own world—but at a rather dark and disturbing price. This will be one of the most talked-about stories of the year, so don't miss it! Then another of our most frequent contributors, **William Barton**, gives us our vivid cover story for October/November, sweeping us along with a group of boys playing in the woods who find adventures stranger and more dangerous than they could possibly have imagined, as they explore the fabulous realms to be found when you venture "Down to the Earth Below." These two huge novellas alone will give you hours of great reading—but that's not even *close* to being all we have in store for you in this special issue!

## ALSO IN OCTOBER/ NOVEMBER

Sturgeon Award-winner **Michael F. Flynn**, one of the mainstays of our sister magazine *Analog*, makes a too-rare appearance in these pages with the story of an all-swallowing enigma that leads us to an appreciation of "Dawn, and Sunset, and the Colours of the Earth"; Nebula-winner **Pamela Sargent** revisits a Famous Film Icon for the true story of what happened "After I Stopped Screaming"; new writer **Ron Collins**, making his *Asimov's* debut, shows us that "1 Is True"; renowned British writer **Ian Watson** advises us about "Saving for a Sunny Day, or, The Benefits of Reincarnation"; **Melissa Lee Shaw** shares her house with more than just abandoned pets in the unsettling "Foster"; **James Van Pelt** provides a moving portrait of "The Small Astral Object Genius"; veteran writer **Kit Reed** takes us to a sinister family reunion with "Biodad"; and Nebula and World Fantasy Award-winner **Carol Emshwiller** examines the surprising elements that go into the psychological makeup of "The Seducer."

## EXCITING FEATURES

**Robert Silverberg's** "Reflections" column warns us about the importance of "Making Backups"; **Norman Spinrad's** "On Books" column muses about "The Big Kahuna"; and **James Patrick Kelly's** "On the Net" column unveils "The Secrets of the Web Masters (Part One)"; plus an array of poems, puzzles, and other features. Look for our huge October/November Double Issue on sale at your newsstand on September 5, 2006. Or subscribe today and be sure to miss none of the fantastic stuff we have coming up for you this year (you can also subscribe to *Asimov's* online, in varying formats, including in downloadable form for your PDA, by going to our website, [www.asimovs.com](http://www.asimovs.com)).

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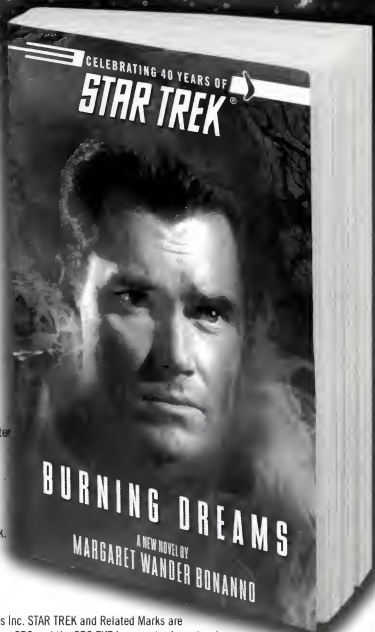
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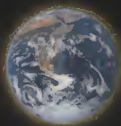
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